33534

LIBRARY OF
No.
ECLECTIC MEDICAL COLLEGE

OHIO
MEDICAL AND SURGICAL JOURNAL.

Vol. 14. Columbus, January 1, 1862. No. 1.

Original Communications.

On the Chemical Reactions of Conine. By T. G. WORMLEY, M.D

Conine, known also as *conicine* and *conia*, is a very volatile liquid alkaloid found in *conium maculatum*. It exists perhaps in all parts of the plant, but is most abundant in the fruit. It was first obtained as an impure sulphate by Giseke in 1827; Geiger, in 1831, obtained it in its pure state, and described some of its properties and effects upon animals. Its effects upon animals were more fully examined in 1835 by Dr. Christison. Four different formulæ have been advanced in regard to its constitution, namely, $C_{12}H_{14}NO$, by Liebig; $C_{17}H_{17}N$, by Blyth; $C_{16}H_{16}N$, by Ortigoza; and $C_{16}H_{15}N$, by Gerhardt. The formula of Gerhardt is the one usually adopted.

In its pure state conine is a colorless oily liquid, having a peculiar, repulsive and suffocating odor, somewhat resembling an old tobacco-pipe; when diluted, the odor is similar to that of mice. This peculiar odor is perceptible, even in highly dilute solutions; a few drops of a liquid containing only the 50,000th part of its weight of the free alkaloid, when enclosed for a little time in a small test tube, imparts its odor to a very perceptible extent to the contained air. When exposed to the air, pure conine becomes yellow, then brownish, and is resolved into a brownish resin and ammonia. According to Geiger, with which our experiment very

XUM

closely agree, it dissolves in about 100 parts of pure water; it is very soluble in alcohol and ether. Its aqueous solution has a strong alkaline reaction, and neutralizes dilute acids, forming odorless salts. Most of the salts of conine dissolve freely in water, and in alcohol, and but few of them can be obtained in the crystalline form; when their aqueous solutions are treated with an alkali, they are decomposed, the alkaloid separating, from strong solutions in the form of minute oily globules, and emitting the peculiar odor of conine. The conine used in the following investigations was freshly prepared, had a just perceptible yellow tint, and was perfectly free from ammonia; at least Nesslers' test, which will detect the ammonia in a few drops of a 500,000th solution, failed to indicate its presence.

When *hydrochloric acid* is brought in contact with pure conine, the mixture assumes a pale red color, which increases in intensity and after a time becomes nearly blood red; when the mixture is spontaneously evaporated to near dryness, it deposits a mass of long crystalline needles, which readily dissolve in water or alcohol, and are redeposited in fine crystals as the fluid evaporates. When a drop of the alkaloid is placed in a watch glass and covered by an inverted watch glass containing a drop of hydrochloric acid, the glasses are immediately filled with dense white fumes, and the conine crystallizes to a solid mass of beautiful long crystalline needles; after a time similar crystals form in the hydrochloric acid drop. When dilute solutions of the alkaloid are exposed to the vapor of hydrochloric acid, they give rise to white fumes, and the conine solution when concentrated spontaneously deposits crystalline needles of the chloride of conine. The same crystals are obtained by neutralizing an aqueous solution of the alkaloid with the dilute acid, and allowing the mixture to evaporate spontaneously.

Nitric acid, exposed to the vapor of conine, gives rise to dense white fumes. When the alkaloid is treated with excess of the acid, it yields after a time, a pale red mixture, which, when allowed to stand a few days, leaves a red colored liquid containing a mass of colorless crystalline needles.

Sulphuric acid forms with the alkaloid a pale red liquid, which, after a few days, deposits crystalline needles along the edge of the mixture.

When pure conine is neutralized with a saturated solution of *oxalic acid*, the mixture, after a time, assumes a pale red color, deposits crystals, and ultimately becomes a dry mass of white crystalline needles. If the mixture be evaporated in a steam bath, it leaves a gummy mass.

When conine is agitated with water, the mixture froths, even when it contains only the 10,000th part of its weight of the alkaloid. In the following investigations the pure alkaloid was dissolved in water. The fractions refer to the amount of conine in solution in one grain of water. Except when otherwise stated, the reactions refer to the result of one grain of the solution.

1. TERCHLORIDE OF GOLD.

Saturated aqueous solutions of the alkaloid yield with excess of terchloride of gold, a copious bright yellow amorphous precipitate, which is insoluble in dilute chlorohydric acid; with a less quantity of reagent the precipitate has a brownish or reddish-brown color. When treated with potash, the precipitate becomes dark colored, and finally nearly black.

1. $\frac{1}{1000}$ grain of conine yields a quite copious precipitate.

2. $\frac{1}{3000}$ grain; a quite good yellow deposit.

3. $\frac{1}{10000}$ grain; an immediate cloudiness, which very soon becomes a good yellow precipitate.

4. $\frac{1}{30000}$ grain, gives but little indication, even after standing some time.

None of the above solutions furnished crystals, even after standing.

2. CARBAZOTIC ACID.

Strong solutions of the alkaloid yield with an alcoholic solution of carbazotic acid, a yellow amorphous precipitate, which in a little time changes into oily globules, and these after a time deposit large crystals. The precipitate is insoluble in excess of reagent, but

XUM

readily soluble in excess of the alkaloid, and also soluble in acetic acid.

1. $\frac{1}{1000}$ grain, yields a copious precipitate, which soon changes to crystals as above.

2. $\frac{1}{5000}$ grain; an immediate cloudiness, and in a little time a quite good yellow amorphous deposit.

3. $\frac{1}{10000}$ grain, gives but little indication after some time.

3. Corrosive Sublimate.

Aqueous solutions of conine yield with corrosive sublimate, a white curdy precipitate, which is but sparingly soluble in water, but readily soluble in acetic and the mineral acids.

1. $\frac{1}{1000}$ grain, yields a copious curdy precipitate.

2. $\frac{1}{5000}$ grain, gives an immediate cloudiness, which soon becomes a good deposit.

3. $\frac{1}{10000}$ grain; in a few moments a distinct cloudiness, and in a little time the liquid becomes quite turbid.

4. Iodine in Iodide of Potassium.

A solution of iodine in iodide of potassium, yields with solutions of conine, an immediate reddish-brown amorphous precipitate, which turns yellow and soon dissolves to a clear solution; upon the further addition of the reagent the precipitate may be re-produced, even several times from strong solutions. When a very large excess of the iodine solution is added at first, the precipitate is permanent. It is readily soluble in acetic acid.

1. $\frac{1}{1000}$ grain, yields a very copious precipitate.

2. $\frac{1}{10000}$ grain, gives a copious deposit.

3. $\frac{1}{100000}$ grain; a very good brownish yellow precipitate.

4. $\frac{1}{250000}$ grain; a quite good yellowish precipitate.

5. $\frac{1}{500000}$ grain, yields a quite good yellow turbidity.

6. $\frac{1}{1000000}$ grain; a distinct turbidity.

5. Bromine in Bromohydric Acid.

When *pure* conine is treated with a solution of bromohydric acid saturated with bromine, it yields a yellow amorphous mass, which soon changes to large orange-colored gum-like globules, which be-

come yellow and after a time deposit colorless crystalline needles. The mixture evaporated to dryness spontaneously, leaves a mass of large needles, which readily dissolve in alcohol, and are redeposited as the liquid evaporates. The above reaction is somewhat modified by the relative quantities of the reagent and conine. When a drop of pure conine is placed in a watch glass and covered by an inverted glass containing a drop of reagent, the glasses become filled with dense white fumes, and soon crystalline needles form in the conine drop, which, when evaporated spontaneously, leaves a mass of long and beautiful colorless needles; the reagent drop evaporated, leaves a very good crystalline residue. An *aqueous* solution of the alkaloid when exposed to the vapor of the reagent gives rise to white fumes, even when the conine is dissolved in 1,000 parts of water. The reagent added to a solution of conine yields a yellow amorphous preciptate, which after a time changes into oily globules, but is reproduced upon the addition of more reagent, even several times from strong solutions. When the mixture is evaporated to dryness spontaneously, it sometimes leaves a crystalline residue, while at others a gummy mass, depending upon the relative amount of reagent present.

1. $\frac{1}{100}$ grain of conine dissolved in one grain of water, exposed to the vapor of the reagent, yields after a time crystalline needles, and when allowed to evaporate leaves a mass of colorless crystals. When the reagent is added to the conine solution, it yields a copious yellow precipitate, which soon changes to oil-like globules, from which the precipitate is reproduced upon the further addition of reagent. When the mixture is allowed to evaporate, if large excess of reagent has not been added, it yields a crystalline residue. The precipitate first produced is readily soluble in acetic acid.

2. $\frac{1}{1000}$ grain, gives a copious yellow deposit, which soon dissolves and is reprecipitated upon the further addition of the reagent.

3. $\frac{1}{5000}$ grain; a good yellowish precipitate.

4. $\frac{1}{10000}$ grain, yields a very distinct yellowish precipitate, which soon dissolves and is not reprecipitated upon the addition of more reagent.

XUM

6. Nitrate of Silver.

When an aqueous solution of conine is treated with a solution of nitrate of silver, it yields a brownish precipitate of protoxide of silver, which soon becomes dark colored, due to the reduction of the silver compound to suboxide.

1. $\frac{1}{100}$ grain, yields a quite good deposit.

2. $\frac{1}{1000}$ grain; an immediate precipitate, which in a little time becomes a good flocculent deposit.

3. $\frac{1}{5000}$ grain; a slight cloudiness, and in a little time a flocculent precipitate.

4. $\frac{1}{10000}$ grain; after standing some minutes the mixture presents a slight cloudiness.

A saturated aqueous solution of pure conine yields no precipitate with bichloride of platinum, iodide of potassium, chromate nor bichromate of potash, ferro nor ferricyanide of potassium, nor with ammonia sulphate of copper. If the conine contains ammonia, which is frequently the case, it will yield when treated with bichloride of platinum a yellow crystalline precipitate of the double chloride of platinum and ammonium.

Salts of conine dissolve without color in concentrated sulphuric acid, and when a small crystal of bichromate of potash is stirred in the mixture, it yields only green oxide of chromium.

Columbus, Ohio, December, 1861.

Scraps from a Lecture delivered by Prof. Dawson *at the Franklin County Infirmary, to Students of Starling Medical College—On Pus.* Reported by W. W. Bickett, Hospital Steward.

Gentlemen:—I will occupy your attention to-day with a few remarks on Pus. In Pathology, like in other science, we have first principles—principles that are at the foundation. These, it is unnecessary for me to say, should receive attention, should be mastered before anything else can be understood.

Something was known of *pus* in very early times—but you will consult the Fathers in vain for anything definite. A knowledge of its characters, (microscopical and chemical) its sources, its uses, and the alleged diseases to which its absorption gives rise, are among the modern achievements of pathology. To have some order in what little we have time to say on this very important subject, we will begin with the

MICROSCOPICAL CHARACTERS OF PUS.

Time was, and not very long ago either, that the blood was looked upon as a homogeneous fluid, a red liquid moving through the vessels without any trace whatever of organization, without containing, what in these modern times is called an *histological* or a *morphological* element. Malpighi, however, came along, and with what would now be regarded as a very imperfect microscope, dispelled our ignorance. A fluid that had doubtless been unsuccessfully inspected by every man and woman from Adam to Moses, and from Moses to Harvey, bowed at last in humble submission to the entreaties of the German naturalist, and gave up the secret of its composition. Think, young gentlemen, of the supreme pleasure and extatic felicity experienced by this pioneer in microscopy just as the lens unfolded to his view the blood cells floating about through the liquor sanguinis, an observation without which Harvey's discovery of the circulation of the blood would have remained as nothing more than a mere theory. Some of you, gentlemen, have doubtless been so unfortunate as to have heard the microscope spoken of as an instrument merely for amateurs, and scarcely reliable in its revelations. But what think you after such an achievement?

The knowledge of a cytoid corpuscle in the blood led to the application of the microscope to other of the fluids of the human body, and the results are that we have discovered also a lymph-corpuscle, a chyle-corpuscle, a mucus-corpuscle, an exudation corpuscle, and a *Pus*-corpuscle.

I have here a specimen of pus, expectorated this morning from the lungs of Mr. ———, a patient in the Hospital, who is in an advanced stage of phthisis. You see that it is a yellowish, creamy,

XUM

thick fluid; specific gravity 1030; alkaline reaction slight. I now place the specimen under the microscope. In noticing it you will observe that it consists of a fluid (liquor puris) and an histological element, the *pus corpuscles.*

The fluid portion (liquor puris) is perfectly clear at times, then again it is turbid and occasionally slightly yellowish. It coagulates on being heated into a white, dense mass, and has an alkaline reaction.

The pus corpuscles agree in general character with the other cytoid corpuscles. You will observe those now in the field of the microscope possess a granular investing membrane, or cell-wall. They are not all exactly spherical, though that is the prevailing form. The interior is filled with granular particles, often arranged so as to appear as nuclei, of which there are often several heaped upon each other. The pus corpuscles in size are a medium between those of the blood and those of the saliva, larger than the former, smaller than the latter. In diameter they are from $\frac{1}{3000}$ to $\frac{1}{4000}$ of an inch. In size, however, they are by no means uniform. They are large in abscesses, small in wounds, and vary in appearance in different states of the system. A property they possess, and to which their change of form, size, etc. is due, is that of imbibition. The fact is, gentlemen, these little organisims are at times "hard drinkers;" they commence the practice early, and continue it through life, Temperance Societies to the contrary notwithstanding. Place them in a fluid with a density in their favor, and you will notice that they become at once swollen, puffed up. The pathologists call this property *endosmosis*, from the Greek words, *endon* "within," and *osmos* "impulse."

The chemical composition of pus is but partially understood. The amount of solid constituents in 1,000 parts, is 140 to 160. The corpuscles are largely (about two-thirds) composed of fat. Albumen predominates in the fluid, (liquor puris) it containing from 12 to 20 parts in 1,000. Of the solid constituents five or six per cent. consists of mineral substances. There is also in pus a small quantity of oxide of iron.

ORIGIN OF PUS.—"Whence cometh" this substance, is a question for the solution of which you may dredge antiquity in vain. Organized similarly to blood, mucus, chyle, etc., a notion obtained at a very early day, that pus was blood deprived of its coloring matter. Vogel, who, by the way, was among the cleverest of histologists, maintained that the pus globules arose out of a transformation of epithelium, the nuclei of which constituted the corpuscles. Henle, supposed them nothing less than elementary cells, in process of being transformed into those of the tissue which the organism regenerated in the injured parts.

In order to understand the formation of pus, according to present lights, we must recollect that the fluids of the body are at times amenable to two forces, physical and physiological. One of these we call *transudation* the other *exudation*. Transudations are due in large part to physical agencies. We have examples of transudations in the splanchnic cavities and in the areola of the areolar tissue from obstruction of venous circulation and other causes. On the other hand, exudation is a vital process, not a secretion really, but the pouring out of a fluid from the capillaries, as in inflammations, wounds, etc. The fluid thus exuded possesses different degrees of organizability.

In one instance, as in simple incised wounds, the fluid (euplastic) poured out serves as the bond of union between the opposite surfaces, and is subsequently distinguished as the cicatrix; in another, the fluid is less vital, (cocoplastic,) as the pathologists say, and not inclined to the formation of tissue. While now corpuscles are developed in the fluid exuded from the capillaries in both cases, it is in the cocoplastic that pus corpuscles most frequently make their appearance. If the fluid is highly plastic false membrane (fibrin) is most frequently precipitated from it; if in an opposite condition, there is a development of pus corpuscles. In inflammations, false membrane and corpuscles both make their appearance in the fluid exuded; in suppurative wounds mostly corpuscles with shreds of coagulated fibrin. It may also be remarked in this connection, that

XUM

an exudation may at first be fibrillated, and subsequently from decomposition contain nothing but corpuscles. This takes place often in true croup, diphtheria, pleuritis, etc.

The relation of the pus corpuscles to the surface of a wound has been pretty successfully investigated. Observation shows the exudation fluid to be in immediate contact with the wound, the corpuscles external.

The question may now be asked, what is the mode of development of pus corpuscles? European histologists acknowledge but a single mode, the *endogenous*—for the development of all cells. The latest writers of our own country find no way so proper of accounting for the cells of the blood, chyle, lymph, as by the free cell-development theory; and on this plan they account for pus cells. While now the advocates of the endogenous method have the advantage in the way of arguments, it must, nevertheless, be recollected that arguments settle but little in physics. The process of dividing and sub-dividing, has, as far as we are advised, never been observed with reference to the blood cells, the chyle-cells, or pus-cells. Besides, it devolves on those who take the position we have noticed, to suggest the source of the germs for pus cells. Again, if pus cells come from germs, might we not see the cells in all the different stages of growth?

Identity of pus corpuscles.—Does the pus cell differ from all other cells? To this question no sufficient answer has yet been returned. We, but a short time since, were unable to distinguish by the cells between mucus and pus. This trouble has now been surmounted. But there are others. Bennet stoutly maintains that no one can tell any difference between pus cells and the white cells of the blood. Paget says the pus cell is histologically identical with exudation cell.

Uses of pus.—Pus is a bland fluid and does not impress unfavorably the tissues with which it is in contact. On this account it seems to be incidentally useful in protecting granulating surfaces from the action of air. Unless the granules of a wound are protected they are re-absorbed. Pus, therefore, should never be

entirely removed from the surface of a wound unless something else take its place. Pus becomes also useful as the means by which fibrinous deposits are removed from membranes. In pneumonitis the exudation is often changed into pus corpuscles and removed by expectoration. In true croup the fibrin is removed by the development of pus cells between it and the mucus membrane. Pus cells, indeed, often make themselves very useful in cases of croup when drugs have failed. At the critical period they commence like a drove of little rodents and literally gnaw off the false membrane, and thus relieve the patient.

VARIETIES OF PUS—FALSE PUS, ETC.—Are there varieties in pus? A negative answer must be returned to this question. Pus has a certain morphological standard (the pus corpuscle and granules of fat) well defined, and only those substances agreeing in these constituents are entitled to the name of pus. Pus is often degraded, often adulterated. The corpuscles occasionally undergo fatty degeneration. Exposed to a temperature of 80° Fah. they undergo transformations, passing into the acid or alkaline fermentation, or into putrefaction. From scrofulous sores the discharge contains but few pus corpuscles, water being the predominating element. In those of feeble constitution the pus is generally deficient in solid constituents; it abounds in masses of coagula, blood disks floating in a thin serum. Pus is sometimes impregnated with a specific virus, as in erysipelis, syphilis, small pox, the vaccine disease, etc.

Pus is often adulterated with mucasine, caseine, bile-pigments, bile-acids, urea, sugar, blood cells, fragments of tissues, and fibres of false membranes.

While normal pus is bland and protective, morbid pus is as certainly corrosive. In an abscess, or on the surface of a wound, the presence of pus exercises a salutary influence. As soon, however, as transformations occur the very reverse is the case; tissues are broken down, disintegrated, and morbid processes engendered, giving rise to the most troublesome complications. Do not such facts suggest the prompt removal of morbid pus, whether contained in

XUM

cavities or in contact with wounded surfaces? Satisfied, therefore, of the existence of pus in an abscess, or in the cavity of the abdomen or chest, you should remove it at once. Such, gentlemen, are the directions of Mercury, however much they may conflict with preconceived notions or prejudice.

There are such terms in common use among pathologists as PYŒMIA ICHORŒMIA.

These are the names that have been applied by surgeons and obstetricians to certain morbid processes that have been imagined to involve the presence of pus or some of its transformations in the blood circulating through the system. These processes are characterized by a low form of typhoid fever, and often by multiple abscesses in one or more organs. There must be a large investment of the imagination here. Can pus corpuscles be absorbed and carried into the circulation? The histologist would say no. Such a process is impossible; there being no adaptation of means to ends. If pus corpuscles ever get into the circulation bodily, they must pass in at the cut or ruptured extremity of vessels This is possible, but its probability is quite another question. But it has been stated that pus has been discovered in blood drawn from the class of patients to whom we have alluded. When, however, it is recollected that we have no methods as yet of distinguishing between the white blood cells and pus cells, and especially as the former present themselves in *lucocythemia*, such statements must pass for what they are worth. It has also been supposed (Lee) that because pus possesses the property of coagulating the blood, that, therefore, its presence in the circulation accounts for the coagula filling vessels often in phlebitis. It is one thing, however, to have the property of producing coagulation in recently drawn blood; quite another, to coagulate living blood in the vessels of an animal. Besides, experiments (Lebert, Sedilot) show directly that pus injected into the veins of a living animal does not coagulate the blood.

Does it not now follow that Pyœmia, a name for a disease dependent on the presence of pus cells in the blood, should be expunged?

Having now shown that the absorption of pus is impossible, and that as a consequence we can have no such disease as *pyæmia*, let us for a moment turn our attention to the agency of false pus as a cause of disease. This without any doubt is a prolific source of disease. Where pus loses its normal status, and transformations set in, new agents may, and no doubt are developed in variety. These, too, may enter the circulation and prove innocuous, as happens when the matter of abscesses are absorbed, a process often witnessed by every physician, or the transformation may result in the formation of a toxic principle; in which event the disease would be characterized by symptoms as specific as the cause.

For such disorders Bennet has proposed the name "*ichoræmia*," which may signify sanies, pus, serum, or any ichorous substance, in the blood, just as the student may prefer. I submit now, to you, young gentlemen, if Toxiconæmia would not be preferable as a name. If then, you are willing, we will call the trouble Toxiconæmia, at any rate, until we have further lights about our feet. This name which we now coin will express the fact that the blood contains a poison, and that is the extent of our knowledge on the subject.

PYOGENIA.—The generation of pus is usually connected with inflammation, though in the present state of our knowledge it would be gratuitous to assert that such is always the case. Under certain circumstances its formation may be regarded as salutary, under others as highly injurious. Some of its uses have been already noticed, and we have only time for an additional remark or two at present. Abscesses have for a long time been regarded as beneficial to the system. A crop or two, often, it has been supposed, served to purge the blood of useless effete matter, that might have occasioned serious visceral disease. What the solid dimensions of such notions amount to, will some day or other, I hope, be fully determined. In pneumonitis, pus is often formed in great abundance in the lung tissue where it coagulates, giving rise to gray hepatization, (a misnomer). Its discharge from here, of course, cannot be regarded in any other than a favorable light.

XUM

But, on the other hand, the suppurative process, when involving extensive surfaces, whether of wounds, membranes, or the skin (as in burns), must certainly be regarded as very exhausting, directly, indeed, calculated to waste the forces of life. What more debilitating than the daily discharge of pus in phthisis pulmonalis? Pus being, as we have seen, largely composed of fat, this substance, so general in the organism and indispensable, is drained away by the process of suppuration to an extent that often destroys life.

What now is the remedy for pyogenia, or rather for *pyorhœa*, if you would allow us again to coin a new name for a morbid flow of pus? What would you think of fat as a remedy? We do not propose it, but may not its efficacy in phthisis be due to the circumstance that it supplies the system with the very substance lost? If you wish to make an inferior animal fat, you could not act more sensibly than to feed it on fatty substances, or other substances—as sugar for example—that differ but little from fat in chemical com position.

Interesting Surgical Cases, with Operations, selected from those presented at the Surgical Clinic of Starling Medical College during the first half of the present term: Greatly enlarged Testicle—Castration; Large Cystic Sarcoma of the Breast—Extirpation; Elephantiasis—Amputation; Exophthalmos—Removal of an Orbital Cystic Tumor, including the whole length of the Optic Nerve; Encysted Vesical Calculus—Lithotomy; Acute Ostitis, resulting in separation of the shaft of the Tibia from its head within three weeks—Amputation; Mortification of the leg following Compound Fracture—Amputation; Hemorrhage on the seventh day. By J. W. HAMILTON, M.D., Professor of Surgery.

ENLARGED TESTICLE—CASTRATION.—Oct. 28—The patient was Mr. W. A. S., of Delaware county, Ohio, aged 41. The patient's recollection, as to the time of commencement of the difficulty, was very indefinite, but he thought it was from 6 to 10 years previously. At different times he sustained slight injuries of the testicles, but not more than is common. For two and a half years he had been

disabled, and had suffered greatly from neuralgic pains about the loins and down the inside of the thigh.

Patient, at time of the operation, was pale, feeble, and emaciated. For a long time he had not enjoyed a single good night's rest. The testicle was of the size of a quart cup. The greater part of the mass was very hard, and quite smooth. The upper and inner aspect, however, was soft and fluctuating, and evidently the seat of deposition of fluid. There were no proper lancinating pains. The disease was decided to be non-malignant.

The operation was performed by dissecting out the testicle, subsequently unraveling the cord, dividing successive portions, and ligating the arteries as they were cut. The cord was previously secured by carrying a needle through it, loaded with a large thread, which was allowed for a time to remain. Three vessels were tied.

Nothing unusual occurred in the operation, except that more blood was lost than is usual. This was evidently attributable to the mode of operating. When the space between the testicle and external abdominal ring is sufficient, the better mode of operating is to secure and divide the cord first, which prevents a large part of the hemorrhage.

For two or three days subsequently the pulse was accelerated, the skin was hot, etc. These subsided from the use of a mild cathartic. The patient left on the tenth day. Four weeks subsequently I was informed by letter of the patient's perfect recovery.

The specimen was unfortunately thrown into the dissecting room sink, by mistake, without examination.

CYSTIC SARCOMA OF THE BREAST—IMMENSE ENLARGEMENT—EXTIRPATION.—Saturday, Nov. 29.—Mrs. H., of Licking county, Ohio, is aged 34, and is the mother of four children, the youngest of which is six months old. The left breast has never given milk A few months previous to the birth of the first child the breast became enlarged. About two weeks after the birth of the child there was a rapid but only partial subsidence. It then continued quiet till the second pregnancy, when there was a similar increase of size, followed in like manner by subsidence. This was repeated

XUM

with each successive pregnancy, at which time all the growth has occurred, except that the six months since the last birth has been attended with some increase.

During pregnancy she has suffered horribly, the pains passing through the left side. The patient described them as utterly intolerable. They were evidently not either of the lancinating or darting, but of the dull aching kind, and were especially severe at night.

The patient was a noble looking woman, with every appearance of perfect health. The breast was greatly and quite symmetrically enlarged. It was of the shape of an immense turnip, and was very loosely attached to the subjacent parts. It was even more or less pendulous, and was free from intimate attachments to the skin, which was of the natural color, except so far as it was discolored by the presence of numerous superficial veins.

The case was diagnosed as cystic sarcoma of the breast.

The operation was performed in the usual manner, except that from the great prominence of the mass, and the comparatively small size of the base, a very large portion of integument was removed. Following on the exterior of a dense capsule, which was loosely attached by abundant cellular tissue, the dense mass was removed with great facility. This being accomplished, however, it was found not to include all the mammary gland. Knowing the tendency to recurrence of such growths, after careful consideration, it was determined to remove all the tissues surrounding this base and covering the pectoral muscle. This, because of the absence of any distinct limiting tissue, was tedious, and more or less bloody. In due time, however, it was duly, and pleasantly accomplished. The fatty, cellular, and glandular tissue thus removed amounted to about a pound in weight. The pectoral muscle was thus extensively cleared, a condition in which it is exceedingly desirable to leave the operation. The ligation of two or three vessels, the introduction of five stitches, and the application of strips of adhesive plaster, completed the dressings. In the operation I was assisted by Drs. Spencer, Reamy, and Evans.

The specimen was dissected in the presence of the class. The whole tissue removed weighed about six pounds. It consisted of a dense, rather fibrous looking mass, in which were cavities or cysts, numbering forty or more, and varying from the size of a hazel nut to that of a tea cup. The largest of them was filled with a fine specimen of cream, as were also many of the smaller ones. An incision at almost any point was attended with the discharge of healthy looking milk, even when no obvious cells were laid open. At several different points there were considerable cavities filled with healthy looking butter. One of these contained about half an ounce, while the others were much smaller, not averaging, perhaps, over a half drachm.

ELEPHANTIASIS. AMPUTATION. Nov. 1—The patient, I. T., of Van Wert county, Ohio, was aged about 32 years, and had the appearance of moderate general health.

He was a private in the regular service, U. S. A., at the time of the Mexican war. In one of the battles before the city, he received a number of bullet wounds, three of which entered the right foot and leg. The exact characters of these wounds could not be satisfactorily learned. The patient states, however, that they were the source of great pain and suffering, but healed within the course of a year. The swelling attendant upon them, however, never subsided, but rather increased and extended. From the reception of the wounds to the present time, a period of more than 13 years, the patient has not been free from suffering. While mere uneasiness in the limb has been constant, very severe pain, of a tensive, aching character, has occurred in protracted paroxysms, destroying sleep, impairing strength, suspending appetite, etc. The enlargement of the foot and toes was prodigious. The skin presented the peculiar discoloration, fissures, and elongated papilla characteristic of Elephantiasis, in a most marked degree. These elongated papilla stood erect, projecting from a large part of the surface in a way not unlike the rough surface of a chesnut bur. The skin was not ulcerated, but had assumed a condition in which cleanliness

XUM

was wholly impracticable. Every effort to cleanse, by moistening, increased the sickening fetor. Ordinary dressing for the foot, by confining the perspiration, did the same. The lower part of the leg was involved in the disease to a moderate extent. Three inches below the knee it appeared to amount nearly to an œdematous condition.

Notwithstanding the success that has attended the ligation of the femoral artery in similar, but slighter cases, in the hands of Dr. Carnochan, and Mr. Erichsen, it was regarded as offering so slight a prospect in this case, as not to justify a trial. Accordingly the leg was amputated just below the tuberosity of the tibia.

The patient being put under the influence of chloroform became violently excited. In the midst of the operation, by a powerful struggle, he broke the buckle of the tourniquet. The artery being secured by trusty assistants, the main vessel, the popliteal just at its division into the tibials, was well grasped by a bull dog forceps, which was given to an assistant. At this juncture another struggle tore off about a half inch of the end of the artery. Time after time, the artery being seized, was in the same manner, jerked out of the forceps, making the operation tedious, bloody, and most annoying. The vessels being finally secured, the flaps, which on account of the large size of the leg had been made long, were secured by eight stitches, supported by interposed strips of adhesive plaster. A marked circumstance is the fact that these flaps never retracted, but rather became elongated. For eight or ten days union progressed but slightly, and was attended with a quite abundant, sloughy, purulent discharge. The pus becoming laudable, at the end of this time, secondary adhesion occurred in the greater part of the wound, so that at the end of three weeks the ligatures had come away, and the union was quite complete. The patient went home at the end of about four and a half weeks.

Dissection.—The subcutaneous cellular tissue was from nine to twenty lines in thickness, and was white, and firm, having a fibrous appearance. The muscles were greatly atrophied, maintained

their red color, but were easily broken up. All the blood vessels seemed large. The deep cellular tissue all seemed hypertrophied, and dense.

EXOPHTHALMOS. REMOVAL OF AN ORBITAL CYSTIC TUMOR INCLUDING THE WHOLE LENGTH OF THE OPTIC NERVE.—Nov. 8.—About twenty months since, I first saw Miss P. H., of Madison county, Ohio, a most amiable young lady of 15 years. At that time, from a careful examination, I was led to suppose that an apparently enlarged condition of the eye, was from dropsy of it. Nothing more was heard from the case until within a few days. On seeing it at the latter time, a mere glance dissipated the former view of the case. The eye was now forced from the orbit, and rested upon the cheek, where it presented the natural size. Just behind it, and within the orbit, a hard, apparently smooth mass, could be distinctly felt. It seemed to present near the centre of the orbit, and to extend towards its superior maxillary, rather than toward its frontal plate. The eye was forced directly forwards, rather than inwards or outwards.

The following history was given: More than five years ago the patient had an attack of common ophthalmia, which lasted for about three months, and was very painful. For two years following there was gradual loss of vision in the right eye. Two years ago last August, the loss was complete. A few months subsequently the eye was apparently enlarged. This apparent enlargement seemed for some time to increase, when the deception was detected.

Repeated examinations, with the most careful consideration of all the circumstances of the case, led to the following conclusions: 1. That the disease was not malignant. 2. That it was not exostosis. 3. That the nechanical source of the exophthalmos had its primary origin in the orbital cavity, and not in the antrum. 4. That the tumor was within the optic capsule, and in close contact with the optic nerve, as shown by the failure of vision as one of the first symptoms. 5. That from its smoothness, and the comparative frequency of cystic tumors in the orbit, it was probably

XUM

of that character. 6. That extirpation was imperatively demanded, and that this could be best accomplished by an incision separating the upper lid from the globe. 7. That the operation should be so performed as to leave the eye, with a view to securing a suitable, moveable stump for an artificial one.

The operation accordingly consisted in separating the upper lid from the eye, the incision extending from the outer canthus about an inch toward the temple. The optic capsule was freely divided. The superior rectus was completely, and the external rectus was partially divided. This gave a fair exposure to the tumor. By the flat handle, in connection with the blade of a dissecting knife, and the occasional use of the finger, the tumor was gradually cleared of its intimate cellular connection with the surrounding parts. Thus it was cleared of all attachments, except at two points, viz: at the sclerotic, and at the optic foramen. It was first separated from the sclerotic. Then a pair of scissors, curved on the flat, were directed to the constricted portion at the bottom of the orbit, which was thus divided. A stream of ice-water, containing all the alum it would dissolve, was now thrown into the bottom of the orbit, by means of a long slender nozel attached to a gum-elastic syringe. In a few minutes this checked all hemorrhage. The eye, with its remaining connections, was now returned to its orbit. From the removal of the optic nerve, and the division of the above muscles, and the elongated condition of others, however, and the absence of any support from the lids, it soon again became extruded in such a way as to throw the cornea flat upon the integuments of the face, and tilt the back part of the sclerotic forwards, so as to make the point of entrance of the optic nerve to be the most anterior part of the eye. Swelling rapidly occurring in the tissues of the orbit, it became fixed in this condition. The swelled lids, with the extruded eye, etc., now presented a rather frightful appearance. Within forty-eight hours the eye lost its temperature, and it was determined to get rid of a portion of it. The most prominent part of it was accordingly transfixed by a cataract knife, and its separation was completed with the scissors

This being followed by escape of the crystalline lens and vitreous humor, gave much relief to the tension and swelling, and did not interfere with the sclerotic attachment of the muscles. All constitutional disturbance now rapidly subsided, and the swelling gradually disappeared. Considerable sloughs of the remaining portion of the sclerotic separated, but still enough was left to preserve the attachments of the muscles, and secure the object in view, a moveable stump. On the sixteenth day, the patient left the city in excellent condition. The tumor is of an elongated, egg shape, an inch and a half in length, and something more than half as large as a common hen's egg. It has not been opened, as it is considered very desirable to keep it in its present condition. It is evidently a simple cyst within the sheath of the optic nerve, of a consistency suggestive of the presence of an albuminous fluid. At the two ends it is tapered down to the ordinary size of the optic nerve. The under side, where it rested upon the floor of the orbit, is slightly flattened.

ENCYSTED VESICAL CALCULUS. LITHOTOMY.—Mr. S. B., of Brownsville, Licking county, is about 25 years old. Since his fifth year he has had all the symptoms of cystitis. Although his general health has at times been fair, permitting him to learn, and to a considerable extent, pursue the business of blacksmithing, yet he has, during the most of this time, been subject to severe suffering from attacks of cystitis, in several of which he is said to have come near dying. In September last, the use of a sound revealed the presence of a stone. This, and subsequent soundings, always found the stone, in whatever position of the body, in one situation, viz: just behind the upper margin of the pubis, and slightly to the patient's left of the median line. Only a moderate surface seemed to present to the instrument, and although the "click" was quite obvious, it could not be made so loud as can frequently be done. These were dwelt upon as suspicious circumstances, but still no serious embarrassment was apprehended.

The ordinary lateral operation was performed. On entering the bladder, for some time no stone was discovered. Eventually the

XUM

finger was brought in contact with a small extent of its surface. Medium sized forceps were now introduced, and were readily brought in contact with it. Numerous unsuccessful attempts were made to grasp it. Being finally seized slight traction caused the forceps to slip off. The same experience was several times re-enacted. Two assistants were now directed to press firmly down behind the pubis, which enabled the forceps to get such a hold as to allow of pretty firm traction. This being perseveringly exerted did not still seem to dislodge the stone. It still raised up to its former site whenever the forceps were disengaged. A careful exploration with the finger, at this stage, detected the stone deeply imbedded in a cyst, with a small and tapering end projecting. Firm pressure behind the pubis increased the size of the presenting part, but still left an apparently larger portion surrounded by very dense, unyielding fasciculi of tissue. In order to maintain the hold of the forceps, attached as they were to the tapering extremity, it was necessary to grasp it with great force. This finally resulted in fracturing it in such a way as to leave the greater part of the mass still in its cyst. To extract this the forceps were nearly powerless: fortunately, however, by this time the stone was so far disengaged as to enable the finger to turn it out into the vesical cavity, when it was easily removed.

Aside from the mere encystment, there were two circumstances, to which especially, the difficulty of extraction was attributable—1. The tapering shape of the presenting part, so that, the stone being very hard and smooth, it was difficult to hold it. 2. The situation of the cyst was such that ordinary tractile efforts only tended to press the stone the more deeply into it.

A large female catheter being introduced into the wound, the patient received a dose of morphine, and was put to bed. Not an unpleasant symptom followed. The urine was all discharged through the urethra after the 22d day. The patient left for his home on the 28th day.

The nucleus of the calculus consisted of the oxalate of lime,

while the rest was triple phosphate. The stone was of the size and shape of a hen's egg, the smaller end presenting from the cyst.

ACUTE OSTITIS RESULTING IN THE SEPARATION OF THE SHAFT OF THE TIBIA FROM ITS HEAD WITHIN THREE WEEKS. AMPUTATION. December 7. I first saw H. W., a lad of 17 years, in consultation with Dr. Galbraith, of Franklin county. A glance satisfied me that the head of the tibia was separated from the shaft. I received the following history: Several weeks previously the young man had an attack of what the then attending physician supposed was erysipelas of the leg. All the soft parts, from the knee to the ankle, were involved in intense inflammation. In a few days there was extensive suppuration. At the end of about three weeks from the commencement of the inflammation the young man was moved from one bed to another. As this was being done he complained of intense pain, and there was an escape of blood from the sinuses just below the head of the tibia, to the extent, as the mother believes, of a pint. When the limb was adjusted, it assumed the exact shape, say the family, in which I found it. Chloroform being given it was demonstrated as being completely separated at the point mentioned. Even at the time of this examination, only about four weeks from the commencement of the symptoms had elapsed, but I have no sort of doubt but the separation was complete from the time of the removal, a week before. This presents a case which, so far as my observation extends, is without a parallel.

Although all this had occurred with little if any perceptible effort at substitution, yet, the lad's general condition being admirable, it was thought best to put the limb in the best possible shape and await the efforts of nature. For three weeks everything progressed favorably. There was now, however, an acute exacerbation, in connection with which the lower part of the leg, and the dorsum of the foot were mainly involved. This lasted about a week, and evidently grew out of an extension of the ostitis to the whole

XUM

diaphysis of the tibia. As it subsided it left the whole dorsum of the foot duskily discolored, and this soon sloughed. It was now obvious that amputation offered the only chance of life, but even this was impracticable under existing circumstances. A liberal diet, with anodynes, stimulants and tonics, continued a week, brought about a very fair general condition, when the operation was performed about the middle of the thigh. All the incidents of the operation were most pleasant. There was scarcely an appreciable loss of blood, or shock to the system. For about a week the wound healed finely, and the patient's condition improved satisfactorily. At this time he was attacked with pain about the right pleura. Soon there was cough and the symptoms of pneumonia, of which he died, thirteen days after the operation.

The dissection was intensely interesting. The fibula had entirely escaped. The shaft of the tibia was separated from both heads. The upper part of it had evidently perished at an earlier period than the lower, and was already surrounded by a somewhat dense mass of lymph, perforated by large openings. This was evidently an embryonic substitute, with its cloacae. The knee joint was filled with pus, and its articular cartilage was extensively separated. There were sinuses extending even above the seat of the amputation. More than half the soft parts constituting the foot were found in a sloughing condition.

Mortification of the Leg following Compound Fracture. Amputation—Hemorrhage on the seventh day.—December 7. Eight days ago the patient, Mr. F. M. B., of Franklin county, had his leg caught in a fly-wheel in such a way as to produce a fracture of both bones of the leg, at the junction of the middle and lower thirds. There was slight projection of the tibia through the skin, making the fracture compound. As to the particulars of the treatment during the first week I had no definite knowledge. I first saw it twenty-four hours previous to the amputation. To a point an inch or two above the ankle it was livid, cold, and

insensible, but presented no crepitation. On the dorsum of the foot were several blisters filled with dark serum, the sites of which could not be altered by pressure. Making an application of warm cotton to the bottom of the foot the patient was sure that he felt a sensation of warmth. The limb was wrapped up in a folded comforter, thoroughly heated before the fire, after a favorite method, as follows: Heating a good thick comforter it was folded so as to be of three thicknesses. Then rolling this strip from each end, two cylinders of equal size were made. Between these the leg was dropped so as to rest on the middle of the folded comforter. Around all this tapes were disposed so as to bind the whole to the leg. Thus every encouragement was given to the circulation and temperature of the limb, while the bones were kept in aposition. A trial of this practice for twenty hours failed to have any salutary effect, for the simple and sufficient reason that mortification of the foot and ankle were already complete. In fact, by this time there was crepitation and a marked fetor. Accordingly, arrangements were made for amputating at the earliest possible moment.

After the patient was under the influence of chloroform, and just as the operation was about to commence, the mother gave a strict charge, that, under no circumstances, should the limb be amputated above the knee. This was regarded as of but little importance, as it was supposed that there could be no reason for amputating at a higher point. The posterior flap being first made by transfixion, the anterior one was made by cutting from without inwards. As this was raised from the anterior tibial muscle, a band of cellular tissue, more than an inch in width, was found black as tar. The mother's very pointed and emphatic charge, now assumed an importance not anticipated. For an instant I was inclined to disregard it, and amputate above the knee. A second thought led to a determination to complete the operation now so far advanced, and if then thought best seek further conference with the friends. On careful inspection, however, it was concluded to remove the discolored cellular tissue, and take the risks.

XUM

The operation in all its details was entirely pleasant. The case progressed satisfactorily for a week. At this time, in using too much freedom in turning in bed, one of the ligatures was displaced, and a very active hemorrhage occurred. After two or three hours this was renewed, when it was deemed necessary to separate the partially united surfaces, and make a search for the bleeding vessel. This search was successful, and the artery, a large muscular branch, was again ligated.

This unfortunate disturbance of the wound was followed by a good deal of inflammation of the flaps, and quite an active fever, in connection with which mild facial erysipelas occurred. All this subsided after a few days, and the case again progressed satisfactorily. The wound is now closing rapidly by granulation and secondary adhesion.

American and Foreign Intelligence.

Cramps accompanying Cholera, treated by the Metallic Armatures (*Metallic Apparatus.*) Translated from the Gazette des Hopitaux. PREPARED BY P. F. C. DESLANDES, M.D.

The excessive heat of the middle of June, and that through which we have just passed since the beginning of August to the last few days, have brought on, as it almost unavoidably happens every year at the same period, a large number of gastro-intestinal affections simulating cholera, and even some well marked cases of cholera. The character of the cholera affections now reigning is in fact a prompt reaction, most usually without any consecutive symptoms, and without any other sequence but an extreme lassitude and prostration, from which the patients are long to recover. It has nevertheless seemed useful to us to take this opportunity of calling the attention of our readers to a very simple means of combating the cramp and spasms so painful which accompany the evacuations of cholera; we mean the application of the metallic *armatures* of Dr. Bury. The following is what this ingenious physician wrote to us a few weeks ago:

"A few days ago, my dear doctor, you had the kindness of ascending with me the 160 steps which lead from the peristyle to

the upper floor of the Hotel Dieu, and there, in one of the rooms of Mr. Harteloup, who had done me the honor of calling me to see two of his patients laboring under nervous affections, you have seen metallotherapy represented by a simple copper basin, borrowed from the attending nurse, and two *bands* of metal obtained from Mr. Trousseau's clinic, stop in a few seconds a violent attack of hysteria; and you remember, I have no doubt, that whenever you wished it, I always could in as short a time, alternately suppress or bring back a new attack by removing or reapplying the metal, to follow in the same way, according to your indications, every spasmodic or neuralgic phenomenon which had appeared elsewhere than under the surfaces covered, and finally, once convinced, as if you would rather have it so, your curiosity been satisfied, keep the patient until the end of the attack in the most perfect calm. The experiment lasted, if I remember well, about half an hour, and you had all the time necessary to ascertain that the cold of the metal had nothing to do with this, for after the first ten minutes it was already warm and at the temperature of the patient's body.

"Well, my dear doctor, what you have seen a few days ago, what so many others have seen me do for twelve years since metallotherapy was discovered, I have done it a hundred times in 1849, publicly in the hospitals, and that often in the presence of witnesses like Messrs. Rostan and Bouchut, Michel Lévi, Monat, etc.

"I will speak first of a cholera patient on whom I experimented in Mr. Monat's wards. I pass over the details to come to the point in question.

"G. presented about three o'clock in the afternoon all the symptoms of well marked Asiatic cholera; he had excruciating cramps in the lower limbs. At seven o'clock in the evening the treatment had as yet brought no relief. I applied a copper ring on each leg on a level with the affected muscles. The cramps ceased immediately. At the end of half an hour of perfect calm, I tried to remove the rings, but the nervous phenomena so soon reappeared that the patient entreated me to have them replaced. I had no sooner acceded to his request when calm returned. A little later in the night, the arms were also taken with most violent muscular convulsions. The patient then seized one of the rings he wore on his legs, and used it for several hours in pursuing the cramps wherever they appeared. This time again the metal was effectual, and it is worthy of remark that the right arm, whose hand held the ring, was affected only when fatigue obliged the patient to hold the metal in the opposite hand.

"We are now at the Val-de-Grace. On the 14th of April, the day of my first visit to this hospital, I was taken to a patient attacked with cholera three hours before. This man, in the most dangerous condition, feels all over his body such violent cramps that he disturbs all the inmates of the ward by his incessant agitation and rending cries. At the invitation of Professor Lévi, I applied in his presence a complete *armature* of iron wire, all the

XUM

pieces of which, ten in number, had been previously warmed. In less than two or three minutes after, the patient had become quite calm. I tried to remove the bracelets from the right arm, and almost immediately the cramps returned in that limb, and in that only. I reapplied them, and they disappeared anew. About half an hour after, Mr. Lévi questioned the patient, who told him that he no longer suffered anywhere except a little in the right side. The perfect tranquility and expression of his face witnessed besides to his sincerity. However, M. Michel Lévi and the assistants were not yet convinced, there might be coincidence. I then removed the whole apparatus, when the cramps reappeared as bad as ever. I replaced it, and they ceased entirely. I offered to renew the experiment, but it was thought useless, and M. Lévi went away, leaving to his assistants, Drs. Masselot and Krug, the care of continuing the observation. These gentlemen remained with me about three quarters of an hour by the patient, and during all that time there was a complete calm—decubitus dorsal, only one vomiting. At twelve o'clock I withdrew, carrying with me the *armature*, which I thought henceforth useless; but hardly was I out of the hospital than already the cries and the agitation had returned as in the beginning. An hour after two nurses were required to prevent the man from getting out of bed. The experiment was decisive. Therefore, from that day, metallotherapy was admitted to experiment night and day in the wards of the Val-de-Grace. What it did there has been reported by Drs. Masselot and Krug in the *Echo du Val-de-Grâce.*

"The results which I have obtained in 1849 with my *armatures*, and those obtained during the epidemic of 1854, have also been obtained by others sometimes with the same apparatus, sometimes with simple copper bands, iron wire, or any other metal formed of an alloy of copper. Among the latter I may particularly mention Drs. Defaucamberge and Durand, who having been sent on a mission in 1849 to the Department of the Haute-Marne, rendered, by their success, the copper applications so popular that at Biesles, Nogent, Mandres, etc., whenever a case of cholera existed in a family an armature of argental was immediately fabricated; the inhabitants of these villages, almost all cutlers, having the argental in abundance (this metal is an alloy of copper, zinc, tin and nickél), and applied it without waiting for the arrival of a physician. Dr. Campardon told me a year ago, that the previous summer, at Montmartre, in a violent case of sporadic cholera, he had also improvised with no less success, a similar apparatus with iron wire bought at the nearest hardware store. The same object may be attained at less expense. During the epidemic of 1849, M. A. Richard obtained the same results on two cholera patients of the *rue des portes* by means of apparatus which are everywhere at hand, by means of simple copper kitchen utensils."

We have ourselves just had an opportunity of trying the simple means so vaunted by our *confrère.* We have just been called to

see a young man, seventeen or eighteen years old, of a strong constitution, laboring under a serious attack of cholera: vomiting, whitish stools, præcordial anxiety, extremely painful cramps, cold skin, cyanosis of the face and extremities, weakness of voice, etc. After inducing reaction, and moderating the evacuations, I had to attend to the cramps to which this young man was a prey, and which were most violent. Twice he had been a little relieved by frictions with the opium and camphor liniment used in such cases; but these moments of calm were very short, and the cramps returned as strong as ever. I was at a distiller where metallic utensils were numerous.

I had placed under the legs of the patient a large copper covercle on which the two calves, which were the principal seat of the cramps, rested. In a few moments, and in my presence, the cramps began to decrease, then ceased completely. I had ordered to leave the covercle in place at least half an hour. At the end of this time the cramps had not reappeared, and it was removed. Since then the patient has not felt anything, and has qiuckly recovered.

Quinine as a Prophylactic.

That quinine is a prophylactic against malarious diseases is an established medical as well as popular opinion in many regions of our own country. The same belief obtains in other portions where malaria prevails to any great extent, and still practitioners who have little or no malarious diseases in their vicinity are quite ignorant of this fact. The Sanitary Commission has just issued an interesting circular recommending to the surgeons of the army quinine as a prophylatic against malarious diseases. The report is drawn up by Dr. Wm. H. Van Buren of this city (New York), who has had opportunities of testing the quinine; and as the facts which he presents, confirming the value of this agent, are of general interest to the profession, we shall notice them briefly. In many parts of the south and west the prophylactic employment of quinine is common by planters, for themselves, their families, their overseers, and negroes. Quinine is also used in our merchant service, on the Isthmus of Panama, and in vessels trading with other unhealthy ports, to prevent attacks of fever. The President of the Panama Railroad Company, David Hoadley, Esq., furnished the chairman the following interesting statement: his attention having been called, in 1853, to the unusual amount of sickness which prevailed among the crews of vessels visiting Aspinwall, he was led to investigate the matter, and came to the conclusion that the regular habitual use of quinine by the crews, for a few days prior to the arrival of the vessels at that port, while in port, and subsequent to their departure, would remedy this evil. Accordingly, by the advice of a physician, he recommended the employment of

wine and quinine made into a palatable mixture and called "wine bitters." This preparation was immediately placed on board of every vessel of the line, with directions for its use. The result we give in his own language:

"The result of this course exceeded our most sanguine expectations. From its very commencement a change for the better was seen, and during the last four years, in which seven vessels have been constantly employed in the trade, cases of sickness have rarely occurred—certainly not one case in ten, as compared with former times. The practice of using quinine, as above stated, is continued to the present day, and so uniformly healthy are the crews of our vessels that the subject no longer excites our solicitude. I would also remark that the use of quinine by the officers and employees of the company on the Isthmus has been found very beneficial, and in connection with this, and the clearing and settlement of the adjacent country, Aspinwall has become one of the healthiest tropical ports of which I have any knowledge."

Prof. G. B. Wood, of Philadelphia, says: "There is no prophylactic measure against the miasmatic fevers at all comparable in efficiency to the use of this medicine." Dr. De Saussure, of Charleston, South Carolina, believes that he has collected "a sufficient number of data to render the opinion plausible, if not conclusive, that quinine possesses power of protecting the white man from attack of intermittent and remittent fever, or its collaterals, when exposed for even long periods to malarious influences;" and he adds, "that its daily use is in nowise injurious to health, nor does its habitual use render the system insusceptible of its remedial powers." He mentions the following striking examples which came under his notice:

"An overseer agreed to take charge of several rice plantations in one of the sickliest regions of rice culture, undertaking to spend the summer months on one of the plantations. He made no inquiry as to the health of the one chosen as his residence—it was selected from its convenient locality. When warned of the danger of his residing there in summer, he said he would never have the fever. His confidence in his capacity to resist malarious disease seemed unlimited. The result fully justified this confidence. He lived ten years or more in that neighborhood, spending every summer on the plantation, varied only by an occasional visit to the healthy pine land, where his family resided during the summer. He visited his rice fields without hesitation at any hour, day or night, that his business required. He never had an attack of fever during that time. I saw him after he had been there several years; a finer specimen of robust health it would have been difficult to find. It was ascertained on inquiry, that it was his habit to take quinine daily, during the summer, before leaving his house; the quantity he did not know, for he never weighed it."

"He was called in August to see one of the contractors on the Charleston and Savannah Railroad, laboring under a very severe at-

tack of remittent fever, contracted during the superintendence of his contract between the Ashepoo and Combahee rivers, notoriously a very unhealthy region. During his convalescence, he informed me that he would have to return to his work on the road, where he had a large number of hands employed (150); that they were negroes brought from healthy regions in North Carolina, and he expected all of them to be more or less sick, as they were entirely unaccustomed to a malarious climate. I advised him to take quinine daily himself, and to give it to all his hands, white or black. Late in the fall I met him in the city; he looked healthy and well. He thanked me for the advice I had given him; told me he had carried up some pounds of quinine; had used it himself daily, and compelled all his employees to take it also; that he himself had never had another attack of fever; that his health was better than it had ever been, and that not a single one of the one hundred and fifty hands he employed had been attacked by fever. In fact, he said: 'The only case of sickness I have had was in a negro who had come from North Carolina sick.' "

Dr. Van Buren alludes to his own experience while on the medical staff of the U. S. Army in Florida. A serious outbreak of miasmatic disease occurred at the station, and the stock of quinine being exhausted, a substitute was prepared with whisky, the bark of the common dogwood, wild cherry bark, and a small quantity of quinine, which reduced the number of relapses, and mitigated the attacks.

The British naval authorities have long been impressed with these facts, and have acted accordingly. Dr. Bryson states in the Navy Medical Reports (No. xv.) that—

"It has long been a standing rule in the Navy, enjoined by the 9th Article of the Surgeon's Instructions, that when men are to be sent on shore in tropical climates, to procure wood and water, or on other laborious duties, the surgeon, if he consider it advisable, is to recommend for each man, previously to his leaving the ship, in the morning, a drachm of powdered bark (Peruvian), in half a gill of wine, and the like quantity of wine after the mixture; or, if there be no wine on board, one-eighth of a gill of spirits, mixed with the fourth of a gill of water, is to be used in lieu of it; and the same proportion of each is to be given to the men on their return to the ship in the evening."

The British Army has been similarly provided, and the medical officers directed to employ quinine as a prophylactic. During the war of the Crimea, the Medical Director of the Army wrote as follows to the Inspector General of Hospitals:

"With reference to previous letters on the subject of administering quinine, and other preparations of bark, as prophylactic remedies, I have the honor again to draw your attention to the matter. From all I have learnt I am persuaded that the number of cases of fever would be diminished by such a course. So convinced am I, especially by the results of the experience of naval medical of-

XUM

ficers, of the benefits arising from the prevention plan, when followed in localities in which remittent and intermittent fevers are likely to prevail, that I have taken care to provide ample supplies of quinine in anticipation of every possible demand for that article. Having now at command sufficient of this drug, specially provided for that service, to furnish five grains per diem to every member of a force of 35,000 men, I beg you will take such measures as you think proper, with a view to induce the medical officers to employ that remedy, in the hope that it may prove useful in warding off attacks of fever, etc."

During the preparations for hostilities in China, in 1859, the Director-General issued the following order: "That a stock of quinine wine be provided, in order that a ration of it be given to the men previous to and during the unhealthy months, or when the soldiers are required to proceed up the rivers, or on being encamped in the vicinity of marshy ground. A medical officer should be present when the quinine wine is issued, and to witness the same being drunk by the men."

The committee continue their quotations at length from medical writers and travelers, showing conclusively that quinine is the great prophylactic as well as curative agent in malarious diseases. The importance of this circular at this critical period in the history of our volunteer army can scarcely be over-estimated. The great majority of the surgeons of these forces have been little accustomed to the treatment of malarious diseases. The season has arrived when the progress of the war is to transfer large bodies of troops directly into regions where malaria exists now in the most concentrated form. Unless some prophylactic is employed, these malarious fevers will decimate our susceptible army in six months, and render it impotent against an acclimated foe. Happily it is in our power to shield those who go bravely forth to meet the exigencies of war, from one of those consuming forces which threaten the Northern soldier in his progress Southward, viz., malarious diseases. We cannot sufficiently commend the Sanitary Commission for its prompt recognition of the medical necessities of our troops, and the distinguished chairman for the admirable and convincing manner in which he has presented this subject to the consideration of our authorities and the surgeons of the army and navy.—*N. Y. Med. Times.*

On Indian Hemp, particularly in its relation to its Property of Producing Sleep.

Dr. Fronmüller first employed the Indian hemp in the case of a phthisical patient in the year 1850, and since that time he has devoted himself to the especial study of the properties of this substance. The result has been the production of a treatise founded upon the clinical observation of a thousand cases in which Indian hemp was administered. This plant has been very much extolled

by many practitioners in various countries, but has lately fallen into disuse, owing to the supposed uncertainty of its operation. The discredit attached to it is attributed by Dr. Fronmüller partly to the contradictory statements published concerning its operation by various writers, and partly to the difference in its effect in the Eastern hemisphere compared with those observed in Europe. The Indian hemp in India, and that grown in Europe present the same external form, but they differ in the relative proportion of narcotic resin which each contains, and which is the active principle of the plant. It appears that the amount of resin depends not only upon differences of latitude, but also upon the depression or elevation of the regions where the plant is grown. Chemical analysis has discovered that the Indian hemp contains gum, bitter extractive matter, albumen, chlorophyll, ethereal oil, and a peculiar resin. This resin is called *cannabin* by some writers, and forms six to seven per cent. of the dried plant. The ethereal oil has been obtained by Martius only in small quantity; it is of a slightly yellowish color, of a peculiar ethereal camphor-like smell, and an aromatic astringent, and afterwards bitter taste. The preparations of Indian hemp hitherto employed are the powdered plant for pills or powder, resinous extract of hemp in powders or pills, tincture of the resin, and emulsion.

With regard to its application to the practice of medicine, the Indian hemp may be considered valuable as a tranquilizing antispasmodic drug. It has been employed with favorable results in tetanus and trismus, cardialgia, rheumatism, and in some mental diseases. Of 1,000 cases in which this drug was administered by Dr. Fronmüller, 552 were males and 448 females, and the patients were of various ages, from one year to fifty and more. The principal diseases of the patients were tuberculosis, inflammation, surgical diseases, rheumatism, diseases of the eyes, nervous diseases, and dropsy. The greater part of the cases were treated by the spirituous extract prepared by Merk in Darmstedt; but others were treated by the extract prepared by the late Dr. Jacob Bell of London. It is to be observed that all the observations were made on cases in which there had been no sleep for several nights, and in which the continuance of sleeplessness was to be anticipated unless some narcotic was employed.

Out of the thousand cases, it was found that the narcotic property of the hemp was completely developed in 530, partially in 215, and little or not at all in 255. With the extract of Indian hemp, the best effects were produced 145 times with a dose of 12 grains, 64 times with a dose of 8 grains, 63 times with a dose of 10 grains, 35 times with 16 grains, 22 times with 3 grains, 17 times with 2 grains, 15 times with 14 grains, 14 times with 20 grains, 13 times with 6 grains, 12 times with 5 grains. The period of falling to sleep, and the duration of sleep in the cases, are numerically recorded by Dr. Fronmüller, and also the number of cases in which unfavorable results ensued on the day of taking the drug, or on the

XUM

next morning. Comparative observations were also made with morphia in cases where the Indian hemp had failed. Out of 29 cases in which Indian hemp had produced no effect, sleep was produced by morphia in 24. The dose of morphia was in general rather a strong one—from one-sixth of a grain to two grains—in order to induce sleep. In the remaining five cases the morphia produced no effect.

The conclusion to which Dr. Fronmüller arrives as the results of his observations are the following:

1. That Indian hemp, among all the known medicines which cause stupefaction, is that which produces a narcotism most completely supplying the want of natural sleep, without occasioning any great excitement of the vascular system, without special stoppage of the secretions, without the supervention of unfavorable consequences, and without subsequent paralysis.
2. That Indian hemp, on the other hand, is not so strong nor so certain in its operation as opium.
3. That Indian hemp may be given in all acute inflammatory diseases and in typhus fever.
4. That it is worth a trial to alternate the Indian hemp with opium in cases where the latter fails.
5. That the best mode of administration is the alcoholic extract in small pills which contain an addition of the powder of the Indian hemp. The lowest dose for producing sleep may be estimated as eight grains given in pills of one grain each.

[*B. & F. Med. Chir. Rev.—Amer. Jour. of Insanity.*

Diseases and Sanitary Condition of the Prisoners at Fort Warren, Boston Harbor.

[To the Editor of the American Medical Times.]

SIR:—Since our arrival at this post the health of the prisoners, held by the United States Government, has materially improved, notwithstanding many obstacles at first had to be overcome. While confined on Governor's Island, New York Harbor, the diseases they suffered from most were, measles, typhoid and intermittent fevers, scabies, pneumonia, phthisis, bronchitis, diarrhœa, and dysentery. The pneumonia was sometimes idiopathic, but in a greater proportion of cases it made its appearance during the progress of, or at the commencement of the typhoid symptoms.

The prisoners of war, when first landed, counted nearly seven hundred persons. They were placed in Castle William, which is the round fort, located on an isolated point of the island. The men were poorly clad, with thin clothing, and some of them had already suffered from the measles and other affections. The contour, age, and health of these prisoners, with but few exceptions, was far below the general standard of regular soldiers, and their appearance plainly showed they had recently attended very little to ab-

lution and other important laws of nature. The measles spread in the casemates of Castle William from one company to another, until all liable to the contagion fell victims to its pernicious influence. Happily, each and every one thus seized, passed safely through the disease, although many, for a considerable time afterwards, were annoyed by that common sequela, viz: a short, hoarse, and barking cough. In the casemates the men were somewhat overcrowded, but to offset this, they were allowed extensive limits to ramble, unrestrained, about, and enjoy the fresh air. Particular attention was paid to keeping the quarters clean; and in order that the air might be as pure as possible, these rooms were regularly ventilated and whitewashed. In the issuing of rations, furnishing cooking utensils, and good beds, the prisoners were placed on the same footing as United States soldiers. Although Surgeon W. J. Sloan used his best endeavors to prevent it, typhoid fever broke out and prevailed to an alarming extent among the prisoners. The sick were sent to three different hospitals, and by judicious management, the disease was finally brought under control and many lives saved. The patients were mostly the worst subjects that could be selected, to undergo the fierce ordeal of this poisonous fever. They consisted of young half developed boys, whose delicate frames indicated that they had never enjoyed robust health. The fever was generally preceded by prodromic symptoms, which were soon followed by a marked chill, and then other symptoms ensued which characterized the disease. The countenance became dusky, the skin was hot and dry, the tongue red at its tips and edges. Epistaxis was a frequent occurrence, and the pulse ranged between 90 and 120. The patients complained of intense pain in the back and limbs, and also of a dull headache. There was, in fact, but a slight variation from ordinary typhoid cases. In but few instances were *taches rouges*, petechiæ, or sudamina noticed, and the glands of Peyer apparently remained intact throughout the course of the fever. The force of the poison was evidently expended on the brain and nervous system, and the consequence was, that the fever left its victim almost a complete wreck in strength and vitality.

In the treatment of these typhoid cases, Dr. Sloan and myself relied upon small doses of calomel, opium, and quinine, given in powder three times a day. Dr. S. had previously found great benefits arise from the use of this combination, in a military hospital during the Mexican war. Our patients were placed in well ventilated rooms, and every attention was paid to cleanliness and faithful nursing. Stimulants and a nourishing diet were employed as adjuvants. Local bleeding, counter-irritation, evaporating lotions, and sponging, were used as they were indicated. In cases of obstinate vomiting, small doses of chloroform were given, and when arrested, the calomel, quinine, and opium was substituted. Out of six hundred and thirty-three prisoners of the line, at least seventy-five were continually under treatment, and of this number the greater proportion labored under typhoid fever. In this seventy-

five, I do not include the convalescents, who were very numerous, and were constantly requiring attention. The depressed spirits of our patients, caused by "home sickness," retarded very much their rapid recovery, and often had a tendency to influence a fatal result. Notwithstanding this serious obstacle we met with fair success, for during a period of two months we lost but twenty cases, some of whom died rather from exhaustion than the fever itself.

The order, concentrating from various parts the political and war prisoners at Fort Warren, Boston Harbor, was issued in the latter part of October, and was immediately carried into effect. The order gave me but short notice to obtain a suitable supply of medicines, stores, and bedding, for about sixty patients, who it was thought would be benefitted by the change. The Medical Purveyor of New York (Dr. Satterlee, U.S.A.) promptly furnished me a field supply of these articles, and as the fort had been garrisoned by Massachusetts Volunteers, it was supposed the hospital there would be more or less provided. Unfortunately, the volunteers, on evacuating the fort, had carried away or expended most of the supplies, leaving only a sufficient quantity for the use of the mechanics and laborers engaged on the works; therefore, until additional supplies could arrive from New York, there might have been some just cause of complaint. The able and indefatigable surgeon-general of the State of Massachusetts, together with the truly charitable citizens of Boston and the vicinity, offered every assistance and sent comforts to the sick prisoners of war, which tended to alleviate their helpless condition. It would be foreign to my purpose for me to herein mention individual instances of philanthrophy and sympathy, extended towards a suffering enemy, as it has been my pleasure to here witness them; therefore, let it suffice for me to say that the sick under my charge fully appreciate this kindness, which to them was unexpected. The voyage on the transport to this place occupied one day and a half, was pleasant, and proved not in the least injurious to the sick. On first arriving at Fort Warren, typhoid fever raged with its accustomed vigor among the men, but it gradually slackened, as they were better provided for in their quarters. The lessening of the number of typhoid cases was followed by the appearance of the mumps, which affected nearly all the men in command, yet in every case it has thus far yielded to a mild treatment of laxatives, fomentations, and diuretics. The diseases most prevalent at Fort Warren are—typhoid fever, mumps, pneumonia, bronchitis, rheumatism, scabies, and debility (the result of previous sickness).

After our arrival here, it was ascertained that several of the twenty-six prisoners, necessarily left in the hospital on Governor's Island, had been attacked with small pox. The knowledge of this fact caused me to thoroughly examine all the prisoners of war to ascertain if they had ever been vaccinated. To my surprise, I found that this important matter had, in the majority of persons examined, been neglected. Having procured, through the proper sources sufficient virus, I had the prisoners vaccinated. So long a time of

probation has intervened since our departure from Governor's Island and our arrival here, that I feel confident we have miraculously escaped this most loathsome disorder. Although the number of prisoners now held at this fort is far greater than the number confined on Governor's Island, yet sickness has been steadily on the decrease, and its severity is now limited to but a few cases. During a period of six weeks there have been at the fort only four deaths, and one of these occured among the regular guard of the Island.

The greater part of the political prisoners are located in quarters similar to those used by United States officers. They are treated with great humanity, ample room is given them to exercise in, and generally they enjoy excellent health.

Yours, etc.,

DEWITT C. PETERS, M.D.,
Assist. Surgeon, U.S.A.

Dec. 16, 1861.

On Puerperal Insanity.

[We extract the concluding pages of a very valuable article, too lengthy for our space, in the July No. of the American Journal of Insanity, from the pen of Dr. J. H. Worthington.—*Ed.*]

"The prevention of puerperal insanity will consist in placing the female under the most favorable hygienic influences which her circumstances will allow. Care should be taken to guard against every source of exhaustion. It ought to be remembered that the discharge from an extensive surface, like that of the interior of the uterus after parturition, can not fail to reduce the strength of the patient. Her diet, therefore, while it is unstimulating should be nutritious. In her susceptible condition, she should be guarded from all excitement, such as unnecessary visits and conversation, and kept as much as possible out of the reach of anxiety and other painful emotions. Errors of regimen, such as exposure to cold, and indulgence in improper articles of diet, should be avoided. During inaction, if symptoms of anemia should be manifested, the infant should at once be weaned, care being taken to avoid the distension of the breasts with the lacteal secretion, and the formation of abscesses. The return of menstruation should be carefully watched, and especial care taken to avoid every exposure until the function is re-established.

"In puerperal as an ordinary insanity, so little is positively known of the anatomical lesions which characterize the disease, that in forming a judgment of its nature we are obliged to depend on our knowledge of its causes, and the circumstances under which it most commonly originates, rather than upon the structural changes it produces. The data furnished by morbid anatomy are almost entirely of a negative character; autopsies in the fatal cases having generally failed to show any positive evidence of inflamma-

XUM

tory action. It is true that the recent researches of Dr. Calmeil have led him to conclude that acute delirium, which so frequently supervenes in fatal cases of puerperal insanity, is an inflammatory discolor of the cortical cerebral substance; yet he considers it an inflammation which is generally, if not always, met with in exhausted conditions of the system, and cannot be treated by active, antiphlogistic measures. In regard to the nature of the affection, Dr. Macdonald remarks: 'When insanity occurs during the puerperal state we would expect to find the disease one of irritation rather than of inflammation; for it is admitted by all that the susceptibility of the female is never greater than during this period. She has been exhausted by utero gestation, while from the growth of the fœtus she has required more nourishment than usual; the irritability of her stomach has perhaps prevented her from using her accustomed quantity of food; she has been debarred from exercise in the open air, that preserver of life and health, and has been worn down by the doubts and fears and anxieties that are so apt to hang over the minds of women under these circumstances. In this state we would not look for inflammation; nevertheless, we may sometimes meet with it, as we do with pneumonia in typhus, or after severe injuries or surgical operations, where there has been great loss of blood and strength. But it is not that active, vigorous inflammation which occurs in strong individuals. It is an inflammation which, judicious practitioners tell us, is often more successfully treated by stimulants in conjunction with other remedies. When it occurs during location we would expect to find a disease of debility, and we do find the mother pale, emaciated, reduced by suckling a large vigorous child, and by nights of watchfulness and anxiety for her offspring.'

"Various therapeutic measures have been proposed in the treatment of puerperal mania, among which may be mentioned local or general blood-letting, tartar-emetic used as a contra-stimulant, warm baths, purgatives, narcotics, etc. I need not enter into any detail respecting the operation of these remedies. It will be sufficient to say, in regard to *all* depleting measures, that notwithstanding the appearance of energy and vital activity which may be supposed to be manifested by the quick pulse and great muscular strength often exhibited by patients in a condition of extreme maniacal excitement, experience has proved, in too many instances, the injurious effects of all remedies of this description. In many cases in which, judging from the high grade of the delirium alone, we might be disposed to believe in the existence of inflammation, and consequently to resort to depletion, pain in the head, increased heat of the scalp, general fever, and other signs of inflammation are absent, and so far from being of service, any active depletion will then invariably render the condition of the patient more unfavorable. If, in an exceptional case, or in one in which the diagnosis is doubtful, the pulse should be found full and strong, and the condition of the patient appear to require depletion, it should be

resorted to with the utmost caution, and its effects should be carefully watched.

"In the commencement of an attack of puerperal mania, it will generally be necessary to have the patient placed in a room partially shaded, which shall be kept as quiet as possible, and into which no one shall be allowed to enter except the necessary attendants and nurses. A warm bath, continued for one, two or three hours in the evening, will tend to allay nervous irritation, and promote sleep. The bowels should be regulated by simple laxatives, and as there will generally be found a vitiated condition of the mucous membranes, evidenced by a furred tongue and offensive breath, laxatives should be continued daily with small portions of blue mass, until the tongue shows signs of improvement. Some gentle narcotic, of which a combination of asafœtida, hyoscyamus and camphor is a good example, should be given every three or four hours. The diet should be unstimulating but nutritious, and may advantageously consist in great part of new milk, given as frequently as the patient can be induced to take it, or as the stomach will bear it. If the acceleration of the pulse, the dry tongue, and the increase of maniacal excitement should indicate the supervention of acute delirium, the same treatment should be continued; but in these cases great difficulty will generally be experienced in controlling the movements of the patient, and in administering the necessary food and medicine. In this state there is a strong tendency to prostration, under the combined influence of the excessive muscular efforts of the patient, her almost total deprivation of sleep, and obstinate refusal of food. It is absolutely necessary, under these circumstances, to restrain the motions of the patient, by confining her with a bed-strap, by which means her strength will be husbanded, and the entire management of the case will be rendered more easy and at the same time effectual. It is very important in these cases that the physician should have entire control of the bodily movements of the patient, in order that he may be able to apply warmth to the extremities if it should be needed, and also that he may have it in his power to administer food and drinks in such quantities as are necessary to support the strength of the patient. Unless these cardinal points are attended to, but little good can be expected from the exhibition of medicines. In many cases of acute delirium the patients refuse food with such obstinacy that it is impossible, by any ordinary means to give it in sufficient quantity. The œsophagus tube, which should be small enough to pass through the nostril, must then be resorted to, and a pint or more of milk, beef-tea, or other liquid nourishment, be injected into the stomach twice daily. If there should be increased heat of the scalp, it may be sometimes removed by warmth to the extremities, or by a dose of laxative medicine, or, if these means fail, by the application of cold to the head. Mustard pediluvia in the evening are always of service, and blisters to the extremities have been found useful as a derivative. It sometimes happens, that, with

XUM

considerable mental anxiety and distress, evidences of cerebral expression will become apparent; the patient is conscious of every thing about her, but appears to labor under difficulty in collecting her thoughts, and in recalling the occurrences of the day. In attempting to do so her mind becomes confused, and the effort fails of its object. With these symptoms of oppression and tendency to coma, I have found, in the absence of fever, the application of a large blister covering the entire scalp to be followed by a decided improvement in the cerebral disorder, and relief to all the symptoms."—*Chicago Med. Journ.*

Lectures on Diphtheria. (Egyptian Disease.) Delivered at L'Hôtel Dieu, Paris. By M. TROUSSEAU.

TRACHEOTOMY.

GENTLEMEN:—When all the medication we may have employed has failed to prevent the propagation of diphtheria in the air-passages, and croup exists; when we have vainly essayed to combat it by the means which I have pointed out to you, and which, I must say, are the more frequently powerless; or when we may have been called to render our services to a patient only when croup has been for a long time confirmed, asphyxia is imminent, and the patient is doomed to certain death; then, gentlemen, there still remains to us one important resource, namely, *tracheotomy.* Advised by Stoll, *(Aphorismes sur l'Angine Inflammatoire,)* who seems never to have seen it done, this operation was for the first time successfully performed in 1782, by a London Surgeon, John Andrée. It was performed upon a child, whose case Jacob Locatelli reported to Borsieri; you will find it set forth in the *Institutes,* (t. IV., *Angina Trachealis,* § CCCCXXXVI.) In the beginning of this century, a French physician, Caron, extolled it anew, although he had performed the operation but once, and then without success. To M. Bretonneau really belongs the glory of the first success, for the case of John Andrée has been very much disputed. After two unfortunate attempts in 1818 and 1820, the illustrious physician of Tours, in nowise discouraged by these reverses, made a third trial in 1825, upon the daughter of one of his most intimate friends, M. le Comte de Puységur, who had already lost three children by croup; and this time M. Bretonneau had the good fortune to save his patient. I believe that I am the second who, following the example of my master, performed tracheotomy in cases of laryngeal diphtheria, and the second one, also, to record a cure. The case occurred long ago. The child on whom I operated was the son of a man whose name has latterly had a certain notoriety, Marcillet, the magnetizer of the somnambulist, Alexis. I reported the case in the first number of the *Journal des Connaissances Médico Chirurgicales* for the month of September, 1833. At the present day, gentlemen, having performed this operation more than two hundred

times, I am so fortunate as to be able to reckon up more than a fourth part as successes. Others after me have entered upon the same pathway, and the results have responded to their efforts. From the Children's Hospital proceeded the impulse which I first gave, and at present there is not a pupil having passed a year in the wards of this establishment who has not cause to felicitate himself for having snatched from the tomb, by means of tracheotomy, one or more children who would have been irrevocably lost but for his intelligent intervention. Having become better instructed by the experience of the past, we attach great importance to the subsequent careful nursing which I shall have occasion to press upon your attention, and the proportion of successes has notably increased. At the hospital of the Rue de Sèvres this proportion has been, for a few years past, more than one-fifth; and this result is considerable, when we remember, on the one hand, the social condition of the children who are brought to the hospital, and the deplorable treatment to which they have been subjected by nurses, quacks, and old women, whose advice is asked rather than that of physicians; when, on the other hand, we recollect especially the attendant dangers of the hospital itself, in which the children operated upon are placed in the very centre of the severest and most varied contagious diseases, so that very often when everything seems to be going on as well as could be wished after tracheotomy, scarlatina, measles, small pox, whooping-cough supervene, and cause very serious complications. Therefore, I do not doubt that in private practice, cure must be the rule in one-half of the cases, provided the operation has been performed under conditions rendering cure possible. These happy results proclaimed on every hand, speak so loudly that all prejudice must fall before them; and I am no longer the only one to advocate the necessity of this operation, and to insist that it is a part of the duty of the physician to perform tracheotomy; a duty as strict as that of performing the ligature of the carotid artery after the wounding of that vessel, although in that case death may follow the operation, certainly as often as a cure. If, in the early days of its introduction, it excited opposition, at the present time it no longer meets with hostility, except among envious, evil-disposed, or ignorant persons. The opposition which may be presented to it is in no wise serious, and henceforth this triumph of the medical art has taken its place in the domain of ordinary therapeutics.

Tracheotomy consists in opening the tracheal tube in order to give access to the air, whose passage through the natural orifice of the glottis has been almost prevented. The professor of operative surgery will pardon me for trespassing for a moment on his territory, in order to describe to you, if not according to the rules of surgery, at least in my own way, an operation which physicians are oftener called upon to perform than surgeons.

The necessary *instruments* are a slightly convex and sharp-pointed bistoury, and a probe-pointed bistoury, two smooth blunt

XUM

hooks, with strong handles; in default of them, we may substitute in their place two hair-pins, which can be found everywhere; a *dilator*, a sort of dressing forceps, curved on its flat side, whose two branches form at their extremity a little spur projecting outwardly, so as to cling to the lips of the tracheal wound, and not to become displaced continually during the movements of respiration. This instrument is designed to dilate the opening made into the trachea, in order to permit the introduction of the canula. This *canula* must be double; one, external, the pavilion of which is pierced with two button-holes, to receive the ribbons that are to be tied behind the neck, in order to hold up the apparatus when it is once in place. Independently of these two button-holes, the pavilion has an upper part, a sort of key, which plays in a slit made in the corresponding part of the inner canula. This latter having a diameter necessarily less than that of the external canula, is provided at its pavilion with two ears, by which it can be seized whenever we wish to withdraw it or return it to its place; it is fastened to the external canula by means of the little key of which we have just spoken, and which should open and shut easily. The diameter of the canula must be sufficiently great; it will never be too great, provided the instrument enters readily into the tracheal tube. Its curve must be that of a quarter circle; thus M. Mathieu makes them all at the present day, and he has adopted this fixed standard in order to avoid the disadvantages which I pointed out to him; the curve of the different canulas which had been presented to me, being before either too great or not great enough, because the workmen continually varied from the type of the instrument which had been given to them as a model. The double canula is absolutely necessary; and in truth, when we see in what manner Van Swieten insists upon the necessity of a double tube, and that too in accordance with the authority of the English author, G. Martins, we cannot but ask how it is that this precept has been forgotten, and how it is that, in spite of the recommendation of M. Bretonneau, who from the very outset of his operations used a double canula not curved, we have been able to remain several years without making use of it.

The dilator is indispensable. Once I lost a child during the operation; it was a little patient under the care of my friend, Dr. Barth. I came to the consultation without knowing what was the case in question, and I found the child dying. Dr. Barth had a canula and a bistoury. I could not put aside the vessels as I would have wished to, because I had no dilator; I groped my way for some time before entering into the trachea, and yet the blood flowed in great quantities into the bronchii and strangled the child, which assuredly would not have happened if I had had a dilator, which would have allowed me to penetrate immediately into the tracheal tube. However, in default of a dilator, we may have recourse, in order to introduce the canula, to the process devised by Dr. Paul Guersant. It consists in arming this canula with a man-

drin, a simple sound of gum-elastic, which passes several centimetres beyond the lower opening of the tube. You will readily perceive how much this modification will simplify the manual operation. The sound is easily introduced into the tracheal wound on the finger, which serves as its conductor, and it answers every purpose to slip the canula upon it in order to put it in its place.

Now let us proceed to the consideration of the operation. The patient is lying on a table furnished with a rather thin mattrass, and with a coverlet several times folded; a pillow rolled up, or better still, a roll of cloth should be placed under the shoulders and the posterior portion of the neck, in such a manner as to stretch the anterior region, and to bring as much as possible into relief the trachea, which we propose to look for. This position is without doubt terribly uncomfortable, especially for a person already suffocating, but it will not have to be maintained a very long time. An assistant placed behind the patient will be charged with the duty of holding his head firmly; another assistant, placed in front of the operator, will be charged with the duty of removing the different layers of tissues and sanguineous vessels with a blunt hook, which he will hold in his left hand, while with the right hand he will be ready to sponge the wound with the fine sponges which should be arranged by his side. Other persons will be needed to prevent the patient from moving. Finally, to omit nothing, if you operate at night, some one will have to hold the candle, which should give a bright light. If the operation is performed by daylight, the patient must be placed directly in front of the window of the room, with his feet towards it, so that the light may fall full upon his neck.

These precautions being taken, the physician standing at the right of the patient—I say at the right, and not on the left, because otherwise he will be annoyed by the projecting chin, unless, indeed, he is ambidexter—the physician standing, then, on the right of the patient, will seize the tracheal region with his left hand, while with the right he will make along the mesian line an incision extending from the cricoid cartilage as far as a little above the sternum. The importance of cutting along the mesian line is such, that by reason of not having made the incision following this exact direction, we may be greatly embarrassed throughout the whole subsequent operation; therefore, I recommend to those of you who have no surgical pretensions, to define beforehand the course of the bistoury by a mark made with ink or with a burnt cork. The incision passes successively through the skin and the cervical aponeurosis, and we then come to a small white line which marks the separation of the muscular masses. We sponge away the blood, which is already flowing fast; we then cut along this little white line and separate the sterno-hyoidian and sterno-thyroidian muscles, which, with the blunt hook held in the left hand, we detach from one side, at the same time that the assistant in front of the operator separates them from the other. Here begins the difficulty.

XUM

We now come to the isthmus of the thyroid gland, whose size and position, as you know, vary to such a degree that sometimes it only covers the first ring or the uppermost rings of the trachea, while sometimes it has the same height as the body itself. Lower down we find the thyroidian venous plexus, and the artery of Neubauer, when it exists. Then the physician must not forget this capital precept, namely, to respect the vessels. If he sees a large vein he should dissect it, and hold it by drawing it out with the blunt hook. If the left subclavular vein, swollen with blood, projects into the jugular cavity, we must depress it and protect it with the finger, for a terrible accident, I need not say, would be the consequence of wounding it; for a still stronger reason must we pay attention to the brachio-cephalic trunk, which, in the case of children, sometimes projects considerably beyond the supersternal fork.

When we come to the trachea we must free it from all obstacles, and then puncture it by making a small incision as near as possible to the cricoid cartilage, and by directing the bistoury along the nail of the index finger placed at the bottom of the wound. A hissing sound indicates that the trachea is open; we use the sponge, and through the opening made we introduce a probe-pointed bistoury to enlarge the incision. If this incision is made far from the cricoid cartilage, we must enlarge it from below upward in order to avoid the brachio-cephalic trunk. Many practitioners prefer to open the crico-thyroidian space, and to cut the cricoid cartilage and the first two rings of the trachea. A moment's reflection will suffice to make it apparent that in acting thus we must necessarily penetrate into the larynx itself, and that if, as quite often happens, the canula remains several weeks in the wound, a partial necrosis of the cricoid cartilage, and even of the thyroid cartilage, will be produced, which may become the source of the gravest ulterior accidents, besides that an irremediable alteration of the voice may result from it. I speak, it must be understood, of what must be done in the case of croup in young persons and in adults, for when I shall speak to you of tracheotomy in other affections of the larynx, I shall tell you that in that case, when treating aged persons, we are sometimes obliged to act otherwise. In the case which occupies our attention it is merely necessary to open the tracheal tube.

I cannot too earnestly insist, gentlemen, upon the necessity of cutting through the tissues, layer after layer, of removing the vessels and muscles with the blunt hooks, and of stripping the trachea completely before opening it; I insist upon the absolute necessity of operating *very slowly*. If even during the operation the child is strangulated, stop, let him recover himself, and let him sit up in order to get his breath; there will be a minute lost, perhaps, but there is nothing to fear. I have never seen *too great slowness* the cause of an accident, and I have often been the witness of the difficulties and dangers of tracheotomy when *too quickly* performed, even when it was done by a skillful operator.

I therefore oppose with all my power the *expeditious* method recommended latterly by Dr. Chassaignac, and which consists in rendering the larynx motionless by means of a tenaculum, in order to penetrate directly into the trachea by cutting through the skin and the parts beneath with one and the same puncture. This process is, moreover, far from being new. In 1586, Sanctorius, who seems first to have performed tracheotomy, laid down the principle of puncturing the trachea with the trocar which he had invented for abdominal paracentesis.

In 1748 Garengeot also recommended *laryngocentesis* as much superior to the operation by which we reach the trachea by passing through successive layers; still Garengeot* prescribes incision of the skin beforehand, without disturbing the muscles, at least in the case of thin persons. This method, the direct puncture without previous incision, is also advised by Heister,† because it is more expeditious, and because the canula being introduced at the same time with the trocar, the patient is spared new sufferings. Decker, Bauchot, Barbeau, Dubourg, Richter had devised *bronchotomes* in order to render the operation more simple and more expeditious still. Van Swieten, in his commentary 813, in which he has treated of bronchotomy at length, opposed this method, whose dangers he readily perceived, having tried it upon the cadaver and upon living animals.‡ A Bérard, who had himself also devised a process analogous to that of Heister, learned that the quickest method was not always the best, and towards the end of his life he gave it up, to return to the more common and the more certain process. Dr. Paul Guersant likewise adopted for a time the expeditious method; but at the present day, although he operates more quickly and better than those among us who are not surgeons, he proceeds very slowly, in order to avoid the serious difficulties which I have pointed out. On the one hand, there is danger in holding the larynx; for, as Dr. Millard has judiciously observed in his excellent thesis,§ as Dr. Lenoir also said in 1841, (Thesis on Bronchotomy,) by opposing movements which are connected with the exercise of a function already seriously threatened, you run the risk of hastening asphyxia and death; on the other hand, you run the risk of exciting mortal hæmorrhages, if by any chance your instrument should meet with arterial anomalies, as in a case communicated to me by Dr. Richet. While operating upon a little girl who was suffering from croup, he was obliged, at the very moment he was about to open the trachea, to cut an artery almost as

---

* Operations de Chirurgie, t. II., p. 447 et 448.

† Institutions de Chirurgie, t. III., p. 153, annee 1770.

‡ "Tentavi aliquoties in cadavere et in viris animalibus hanc methodum, sed videbatur mini admadum dfficilis, et non carere periculo, ne quandoque valida vi adactum instrumentum deviaret, unde crederem priorem methodum, licet magis operosam, præferendum esse.—(G. Van Swieten, *Comment. in Herm., Boerhavii Aphorism, de Cognose, et Curand. Morbis*, Aph. 813, t. II., p. 627.)

§ De la Tracheotomie dans le Cas de Croup, Paris, 1858.

large as the radial; there was anastomosis of the two inferior thyroids. A ligature applied to the two extremities of the divided vessel stopped the hæmorrhage, and in this circumstance the skillful surgeon had good reason once again to congratulate himself upon the slowness with which he habitually proceeds in the operation of tracheotomy. In another case, I found the left carotid springing from the innominate trunk and crossing the tracheal artery. Moreover, it is not only not easier to puncture the trachea through the skin than at the bottom of a wound, but also the instrument may deviate from its proper course, and instead of penetrating into the air-tube, may pass into the œsophagus, as actually happened to my colleague, A. Berard. Finally, if, at the very moment when you are about to introduce the canula, a false membrane lining the trachea should get in the way, how could you get at it through a narrow and deep wound? how could you see it in the midst of the flowing blood? Death would then be inevitable.

Some of you who have attended the clinic for several years, will remember a case presented in our wards two years ago. On the 27th of May a little girl four years old, attacked with croup, was brought to us; she was *in extremis*, and I hastened to perform tracheotomy. At the very moment when the trachea was exposed to view, I had cut a rather large thyroid vein, and in order to stop the somewhat abundant hæmorrhage occasioned thereby, I hastened to introduce the canula. Still respiration was not re-established; suffocation was very great, and the face of the little patient presented a frightfully livid, bluish hue. I withdrew the canula and introduced the dilator. The child was in a state of apparent death; respiration was suspended, and the pupils dilated; a sign which indicated that the asphyxia had reached a very high point. We then caused the thorax to perform the movements of breathing, and after a minute and a half or two minutes—the time seemed horribly long to us—we saw the patient make certain grimaces; a full inspiration recalled the air into the chest, and life returned. There had happened what I had already observed in the course of a long practice. A false membrane lined the larynx, the trachea, and the bronchii, and at the moment when I inserted the canula this torn false membrane had become engaged with my instrument, which it stopped up, and completely obstructed the passage of the air. When we had re-established the respiratory movement, after having withdrawn the canula and introduced the dilator, this false membrane appeared at the orifice of the trachea; we could seize it with our forceps and draw forth a long fragment of it, which was branched at its lower extremity. The canula was restored to its place and gave egress to other false membranes proceeding from the bronchial tubes, and the expulsion of which was caused by efforts of coughing, themselves excited by tickling the trachea with the end of a feather. The calibre of these tubular false membranes proved to us that the diphtheritic affection was deeply seated; and although respiration was re-established, we could not deceive

ourselves as to the results of our operation. The child, in fact, died during the night.

The expeditious method exposes patients to an accident which sometimes occurs, it is true, when the operation is performed according to the surest method. I refer to *emphysema* of the cellular tissue, resulting from the lack of parallelism between the incision of the soft parts and that of the trachea; and from the fact of the tracheal wound being too narrow, we would have difficulty in introducing the canula. This emphysema has nothing alarming about it. When it is limited to the neck and the immediate neighborhood of the wound, it will rapidly disappear, and is an accident of slight importance. But when it is more extensive and invades the chest, it helps to make respiration difficult; if it attacks the face, it has the additional disadvantage of disfiguring the patient and frightening the family. It may also attain extraordinary proportions and become almost general, an instance of which was observed by Dr. Millard; in such a case it becomes an accident of the most serious nature. Besides the dyspnœa which it brings with it, it gives, by reason of the swelling of all the tissues of the cervical region, such a depth to the wound that the ordinary canula becomes too short to reach even to the trachea, and it becomes necessary to resort to the most painful expedients.

Operate, therefore, slowly—very slowly. The trachea is open, but all is not yet over, and that which remains to be done is the portion of the operation, if not the most difficult, at least that which demands the greatest coolness and presence of mind. In fact, at this moment the blood becomes choked up in the bronchii, and as respiration is then more labored, the venous hæmorrhage, far from stopping, flows with even greater force. We must at once seize the dilator, which should be at hand, then introduce it closed between the lips of the tracheal wound, and when it is inserted open it moderately by withdrawing its rings, This manœuvre, easy as it seems, nevertheless demands some skill. It has very often happened that I have placed the end of my instrument between the muscles, and have introduced only one of its branches into the trachea. Here, too, it is necessary to proceed slowly; we must also go as deeply as possible. When the dilator is well placed the air penetrates readily, the blood, the mucosities, and the false membranes are expectorated, and respiration becomes ordinarily easy. At this period of the operation, the assistant who holds the head of the patient should bring it a little forward, in order to facilitate the introduction of the dilator, by relaxing the edges of the wound, and also in order to favor the exit of the blood and mucosities. If a somewhat abundant venous hæmorrhage takes place, as in the case which I just now mentioned, we must hasten to introduce the canula, and the hæmorrhage will at once cease.

The well-placed dilator will serve as a conductor for the canula, which has previously been provided with a ring of caoutchouc, or with gummed taffetas, designed to prevent the pavilion of the in-

XUM

strument from irritating and excoriating the skin of the neck. This introduction of the canula is often very difficult; sometimes the opening of the trachea is missed, and the instrument is plunged in front of this tube into the cellular tissue. We are notified that the canula is properly placed by the passage of the air and of mucus, and by the facility of respiration. It is indispensable that the canulas should be long, and that they should be inserted into the trachea from one to two centimetres beyond the inferior angle of the wound in this tube. If the canula is too short, it becomes displaced by the efforts of coughing, gets in front of the trachea in a sort of *cul-de-sac*, which is always found there, and the patient dies by suffocation in a few minutes; a frightful accident, which I have three times had occasion to deplore, notwithstanding I had left with my patients students of medicine who had had some experience. In addition, the canula should be firmly fastened about the neck by means of cords.

When we have once penetrated into the trachea, the manner of getting there is in fact a matter of small moment; whether the operation has been performed more or less skillfully or more or less rapidly is equally immaterial, provided we have avoided hæmorrhage, for loss of blood has a very bad influence upon the sequelæ of the operation.

The subject of *treatment* remains to be considered. This wholly medical subject is so important that henceforward it will play the principal part, for while some almost invariably lose all their patients, others save a third part, and sometimes half of them. I should do wrong in speaking only of the treatment *to be* followed; we must also take into consideration that which has been pursued. Let us say at once, for it is the exact truth, that at the present day the greatest number of physicians are fortunately satisfied that the general medications of which I have spoken to you are often useless; that the chances of success will even be greater in the same proportion as these medications may have been less energetic; that blisters especially are attended by the serious disadvantages which I have pointed out to you; and the result is, that they no longer exhaust their little patients by sanguineous emissions, and that they are very careful not to apply blisters. I am, for my own part, thoroughly convinced that if we have been more successful in tracheotomy during a few years past, it is to be attributed as much to the happy direction of the treatment adopted by our associates, as to the method which I have recommended.

Before entering upon this subject of subsequent treatment, I must call your attention to a few details relative to the dressing of the wound, to which I may seem to attach an exaggerated importance; but the older I grow, the more convinced do I become that in therapeutics the minutiæ occupy a much more important position than is commonly believed.

I have spoken to you of the bit of caoutchouc or waxed taffetas which should be placed between the pavilion of the canula and the

skin, in order to prevent this latter and the wound from being irritated by the instrument and by the ribbons which keep it in its place.

The neck of the child should be enveloped in a *cravat* of knit wool, or in a large piece of muslin, in such manner that the child will expire into the tissue enveloping the neck, and inspire warm air impregnated with the vapor of warm water produced by the expiration. This is a capital precept; we thus avoid the drying of the cavity of the canula and that of the trachea; we avoid irritation of the mucous membrane and the formation of coriaceous crusts analogous to those formed in the nasal fossæ of individuals attacked by coryza; crusts which, becoming detached in complete tubes, or fragments of tubes, cause frightful attacks of suffocation, and sometimes death, by the closing up of the canula. Before Dr. Paul Guersant and myself had adopted this method, we lost a great number of our patients by catarrhal pneumonia, but at the present time this accident is much more rare. It is probable that the introduction into the bronchii of warm and humid air is an infinitely favorable condition.

This method of surrounding the neck of the patient with a cravat had been pointed out by the ancients. The end they had in view, however, was to prevent the entry into the canula of dust, or of small bodies which might be floating in the air. As G. Martins has observed, it was a chimerical fear. Garengeot, however, had really seized the true indication when he recommended the placing of cotton in front of the canula, in order *to modify the air entering into the trachea;* or better still, to put over the orifice of this canula either a pledget of very light lint, or a piece of linen of rather coarse texture.* But independently of this precaution, useless as to the point of view from which they regard it, the ancients recommended that the air of the chamber in which the patient rested should be kept warm, for cold air might be injurious, that which reaches the lungs by the ordinary avenues of respiration being warmed in its passage through the mouth and the nasal cavities.† In our time it has been proposed, in order *to comply* with this indi-

* I shall be permitted to reproduce here textually the passage from Van Swieten, relative to this subject:

"Soliciti pariter fuerunt plerique hujus operationis descriptores, ut caverent ne rina cum ære pulvisculi in illo volitantes patulum tubi orificium intrarent libere; hinc gossipo, linteo carpto, spongia, etc., tegi voluerunt extrorsium patens tubuli orificium. *Martinius* tamen usu didicit nullam notabilem inde noxam ægro accidere, licit non tegeretur tubuli orificium, quamvis etiam in domo non adeo nitida decumberet æger; si tamen inde quid metueretur, posset hoc facile evitari, si collo circumduceretur laxe rarum linteum, spleniis ita in vicina tubuli dispositis, ut illud quidem tegeret tubi orificium, non tangeret."—(Van Swieten, *loc. cit.*, p. 628.)

† "Expediet tamen ut ær parium calidior sit in loco quo decumbit æger, cum frigore suo nocere plus posset quam dum communi respirationis via in pulmonem trabitur, semper in transitu per os vel nares calescens utcumque." (Van Swieten, *loc. cit.*)

cation, to use in the apartments the vapor of water, but we can readily understand that this method could not take the place of the more simple and more convenient method of the cravat.

There is also another thing to be done, without which cure is rare; I refer to the *cauterization of the wound.* Immediately after the operation, and also the first four succeeding days, all the surfaces of the incision must be vigorously cauterized once during the twenty-four hours with the stick caustic; thus we shall avoid an accident greatly to be feared—the diphtheritic affection of the wound, which becomes covered over with thick and fœtid false membranes. The specific inflammation, spreading in the surrounding cellular tissue, often develops in it a phlegmonous erysipelas of bad character, which becomes the seat of local gangrene, and at least of a violent symptomatic fever and general infection, from which recovery is rare. Dr. Millard says in his thesis that this cauterization is never performed by him at the very time of the operation; and according to information which I have gathered from one of the sisters attached to the hospital of the Rue de Sèvres, who has a thorough acquaintance with the treatment followed by my colleagues, the cauterization is never made, at the earliest, sooner than twenty-four hours after the operation; in addition, the child must be docile, and should have no fever, in which case they wait until the fever has subsided before cauterizing. I could not adopt this method of operating, because I have too often had occasion to know its disadvantages. When the fifth day has come, the surface of the wound is modified to such a degree that these accidents are no longer to be feared.

The operation being performed, the first thing of which the physician ought to think is the *alimentation.* Alimentation, and I have on several occasions, gentlemen, insisted upon this point, is the remedy *par excellence*, for the greater number of acute diseases, and especially for the diseases of infancy. Assuredly, abstinence, prescribed by Broussais, and still advised by a great number of physicians who cannot free themselves from the old man, and who retain too many of the prejudices of their early medical education—abstinence is one of the most mournful complications of diseases; the best suited to keep up the infection of the economy, and to open the door to the absorption of exterior miasms, and of the vicious excretions originating in the diseased body, and most opposed to that capacity of resistance which is the great promoter of convalescence and final cure. I do not mean that we must stuff our little patients with food; I mean only that we must satisfy their appetite, if they have any, and must force them to eat a little if they refuse their food altogether. I return to the point which I have already dwelt upon when speaking of the treatment of diphtheria in general: do not fear to employ intimidation. In that case, by assuming an apparent severity, whose expression I have exaggerated, I have many times compelled children to take nourishment, and I have prepared the way for a cure, which, without it, I had

deemed impossible. Milk, eggs, cream, chocolate, soups, are the articles on which I have most insisted. If it is necessary, we must have recourse to the œsophageal sound, in order to introduce into the stomach the liquid food and nourshing drinks which the child refuses to take.

What I have just said sufficiently indicates that I prohibit, in the most formal manner, the continuation of the remedies, which, before the operation, may have been deemed more or less useful, namely: calomel, alum, purgatives, emetics, which cannot be compatible with the alimentation that I recommend

It is a remarkable fact, that when tracheotomy is once performed, we no longer have to concern ourselves about the pharyngeal or laryngeal diphtheritic manifestations, which previously required to be so vigorously opposed; they get well of themselves. It seems that the disease, when it has reached the air-passages, has exhausted all its force; and if, by affording a passage to the air into the respiratory apparatus, by means of tracheotomy, we prevent the patient from dying, cure will naturally result. I speak of the pharyngeal and laryngeal diphtheritic manifestation, for the cutaneous manifestations must be vigorously combatted from the outset, by the topical remedies which I have pointed out, under penalty of seeing them become the occasion of an ominous resorption and a general infection, which must at any cost be avoided.

In the earlier operations of tracheotomy which I performed, I prescribed, after the example of M. Bretonneau, the sponging out of the trachea as far down as possible, with a small sponge fastened to the end of a piece of whalebone. Long since, I renounced this operation, as also the cauterization of the trachea, which I did either with the aid of a sponge filled with caustic, or by instilling this caustic in solution in the water. These manœuvers have seemed to me to be attended with more disadvantages than real advantages. I will say the same also of the *instillation of the chlorate of soda*, devised by Dr. Barthez, who, after having made them the subject of a communication to the Medical Society of the Hospitals, has himself discovered and acknowledged the uselessness of them.

An essential point is the frequent cleansing of the internal canula, so as to render the entry of air as easy as possible. I recommend that it should be cleaned every two hours.

There now remains a final part of treatment, of considerable delicacy, and upon which I wish to dwell for a moment: it is that which concerns the withdrawal of the canula, and the final closure of the wound.

I do not speak of the method recommended by Dr. Millard, and which consists in at once withdrawing the canula after the first dressing of the wound, which my young and intelligent friend is accustomed to do at the end of the first twenty-four hours. Dr. Millard purposes, by acting thus, to aid the expulsion of the voluminous false membranes, which, being held back by the canula,

might obstruct it, and excite attacks of suffocation. Doubtless, in the cases in which this suffocation would be produced, the indication is precise; but in ordinary circumstances I do not see the advantage, still less the necessity, of following this method. Nevertheless, I would assert it as a principle, that the sooner the canula is definitely withdrawn, the better it is; but it can rarely be withdrawn before the sixth day; and it should rarely be left beyond ten days. However, there are cases in which the larynx will remain completely closed during fifteen, twenty, forty-four days; an example of which I have seen in the case of a young girl, who, moreover, recovered. I call to mind, also, a child, who retained his canula for five years. This patient is still living, but he has a fistula of the air-passage.

At the end of the first week, the canula should be withdrawn, care being taken not to frighten the child, nor to make him cry. The poor little ones have become so accustomed to breathe through an artificial passage, that when we close this tube in order to facilitate the passage of the air through the larynx, they are seized with fright, which is expressed by agitation, by cries, and consequently, by an acceleration of the respiratory movements. The larynx is still somewhat obstructed, either by slightly adherent false membranes, or by mucus, or by a slight tumefaction of the membrane; and besides, the laryngeal muscles have, perhaps, lost the habitude of contracting in harmony with the needs of respiration. There often results from this very great oppression; in the greatest number of cases, this oppression passes off well enough, if we can succeed in tranquilizing the little patient, and this is a part which belongs rather to the mother than to the physician. The wound should then be closed with fillets of English taffetas. If the sound of the cough and of the respiration, if the nature of the voice or of the cry indicate that the opening of the larynx is sufficiently large, we leave the dressing of the wound as it is; but if the air only passes in an insufficient quantity, we do not put on the fillets; we merely place on the wound a piece of linen covered with simple cerate, and wait until the next day to close it. If the air does not pass at all, we replace the canula, and two or three days later we recommence the attempt. As soon as respiration is well performed, in spite of the closing of the wound, we renew the dressing three or four times a day, and ordinarily the opening of the trachea is closed at the end of four or five days: there only remains the external wound, which we simply dress, and which soon heals in its turn.

There is a somewhat serious accident to which I have for a long time directed the attention of practitioners, and upon which Dr. Archambault has more especially insisted. I refer to the difficulty of swallowing. This difficulty consists in the passage of drinks through the glottis; there results from this a violent and convulsive cough each time the child attempts to drink, and the liquids which penetrate into the tracheal tube and the bronchii spurt in abundance

through the opening of the canula. Besides the sufficiently serious disadvantages which may result from the contact of liquid food with the mucous membrane of the bronchii, food sometimes insoluble, and consequently irritating, there results from it especially an insurmountable disgust, and children rather suffer death from hunger than consent to take nourishment. Too often has this complication been the cause of death after tracheotomy, notwithstanding that I have used every effort to apply a remedy for it. The best method is to interdict all liquid food. I give to children very thick soup, vermicelli in milk or broth, to be eaten with a fork, and not with a spoon; hard eggs, eggs in milk, very much cooked, and meat slightly cooked and in rather large pieces; and I interdict every sort of drink. If thirst is too intense, I give pure cold water, and I take care to give it a long time after the meal, or immediately before it, in order to avoid vomiting. We must remark, however, that the accident of which I speak scarcely ever manifests itself earlier than three or four days after the operation, and that it rarely continues later than the tenth or twelfth day; however, I have seen it continue much longer in the case of certain little patients.

It would seem that the larynx, which opens so readily to receive drinks and liquid food, would be sufficiently open to permit of the air necessary to supply the needs of respiration; it is, however, not so. We withdraw the canula, and we perceive that the opening of the larynx is still insufficient; and even when, a few days later, we have been able to close the wound with agglutinatious fillets, the accidents continue with the same violence.

It is rather difficult to account for the cause of this accident. Dr. Archambault thinks that the child who has breathed through a canula for some days, loses the habit of giving harmonious movements to the muscles, which serve to close up the larynx, and to those which push the food into the œsophagus; and he says that he derived some benefit from the use of a rather ingenious method, which consists in closing the canula with the finger at the very moment when the patient is about to swallow something; thus the child is obliged to use his larynx, and the normal harmony is reestablished. This little stratagem, in fact, succeeds very well in some cases, but in others it fails completely; and what I have said above demonstrates this, since, at the very time when the canula has been withdrawn and the wound is completely closed, the difficulty of deglutition continues, although the laryngeal respiration is perfectly free and regular; this depends, probably, upon the fact that the muscles of those parts have been affected by the paralysis of which I have spoken to you.

And now, gentlemen, I have set forth to you all I had to tell concerning tracheotomy and the various measures for performing it successfully. I have repeated to you what I have told you a hundred times during many years past. I would leave the subject, however, incomplete if I did not speak to you now of the conditions under which the operation ought to be performed.

And first, *At what period of croup is the duty of resorting to it most urgent*? In 1834, I wrote in the September number of the *Journal des Connaissances Médico-Chirurgicales.* I repeated in 1851, in an article entitled "*Nouvelles Recherches sur la Période extrême du Croup,*" what you will find inserted in the journal *l'Union Mèdicale,* as follows: "So long as tracheotomy was in my hands an unreliable remedy, I said—we must perform the operation as late as possible; now that I can reckon up numerous successes, I say, it must be performed as early as possible." Taking from this proposition that which makes it appear too authoritative, and I still maintain it, when I say that *the sooner the operation is performed, the greater are the chances of success.* The ingenious experiments of Dr. Faure have, in fact, demonstrated that, by asphyxiating an animal slowly and methodically, there are produced during the last moments of life blood-clots in the heart and in the large vessels; we must, therefore, operate before death is imminent; but I hasten to add, that whatever may be the point to which suffocation has reached, even though the child might have but a few moments more to live, tracheotomy should be essayed; there is a chance of success *when the local lesion, when croup constitutes the principal danger of the disease.*

This restriction is important; for if the diphtheritic infection has profoundly affected the economy; if the skin and the nasal fossæ are attacked by a special phlegmasia; if the frequency of the pulse, delirium and prostration, indicate a deep-seated poisoning of the system; if, in a word, you have to do with the malignant form of diphtheria, in which the peril consists, rather in this general condition of the system, than in the local lesion of the larynx or of the tracheal tube, *the operation must not be attempted;* death will invariably result.

The condition of success which leads all others, as Dr. Millard has well said in his excellent thesis, is the predominance of the characteristics of asphyxia among all the symptoms presented by the disease. "Unfortunately," as our confrère has also justly observed, "it is not always easy, in the midst of a combination of symptoms frequently very complex, to distinguish with certainty the disorders due to the mechanical affection, and those which are the expression either of the diphtheritic affection, or of a complication of another order." We are often obliged to resort to the urgent indication of causing a dying child to breathe, at the risk of discovering afterwards that he had no chance of recovery; and even when we suspect that he carries within himself the germs of death, we are still compelled, in the absence of an absolute certainty, to perform the operation almost without hope. "Operations of tracheotomy, performed under these circumstances," says, in conclusion, the author whom I take pleasure in quoting, "are attended by no other disadvantages than that of figuring among statistics in the same rank with others; they run the risk also of misleading opinion, and of bringing into discredit one of the most beautiful

triumphs of the medical art. But the fear of diminishing the list of his successes should not by any means cause the physician too quickly to discard the operation; not until he has made a minute and thoroughly discriminating analysis of all the symptoms, and has detected a certain cause of death, has he the right to assume so serious a responsibility. This right we have exercised on several occasions, in cases about which there could be no dispute, without ever having had reason, on the autopsy, to regret having done so; but in every instance where we have harbored the least doubt, even though these conditions were very inauspicious, we have nevertheless taken the bistoury in hand, penetrated with the truth of the axiom, *Melius anceps quam nullum.*" These, gentlemen, are wise and prudent words, and for my part, I accord to them my entire approval.

Finally, one subject more remains: it is that of *age*—a capital subject, demanding great consideration. I have told you, gentlemen, that among adults, tracheotomy, in cases of croup, did not succeed as well as with children; I have given this, perhaps unsatisfactory, explanation of it, namely, that in adults the anatomical disposition of the parts permitted a free passage of the air into the lungs for a much longer time, so that diphtheria had the opportunity to reach the bronchii and their most remote ramifications, before we would be compelled to have recourse to tracheotomy; but among children, this success is so much the more certain as the patient is the more advanced in years. This clearly appears, from the statistics prepared to elucidate this fact, from those among others published in the work of Dr. Millard. You know that before the age of two years croup is rare; but as you might nevertheless meet instances of it, as I have myself met with it in children still at the breast, it is essential that you should know that at this period of life tracheotomy has but few chances of success. However, in 1834, I operated upon and cured an infant, thirteen months old, and I ask your permission to reproduce here the history of the case, as published in the number for June, 1834, of the *Journal des Connaissances Médico-Chirurgicales.*

On Sunday morning, May 11th, 1834, Dr. Corsin sent for me to see the child of a cartman, de la Petite-Villette, named Pierre Droolinger. It was a little boy, thirteen months old, still at the breast. He had been coughing for four days, but during Saturday night great oppression supervened; his cough, at first hoarse, ceased entirely, and he had lost his voice. Dr. Corsin was called, and finding the patient already in a desperate condition, he merely prescribed an emetic potion, and sent at once for me. The symptoms of croup were very evident, and the attacks of suffocation were so severe, and followed one another so closely, that I made preparations to perform the operation of tracheotomy.

The operation was laborious, and lasted more than ten minutes; finally, I opened the trachea, and at the very instant a large shred of false membrane spurted out some distance. I cleansed the tra-

chea and the bronchii, instilled eight or ten drops of a solution of nitrate of silver, and inserted a cenula. The poor child breathed easily; he looked at us in affright, and sought his mother, who had fled the house. We caused her to be called, and when she came the little one stretched out his hands to her with joy, at once began to undo her dress, and the handkerchief which covered her bosom, and seized the breast with avidity. For three days the canula was changed morning and evening, and every six hours we instilled nitrate of silver; on the fourth day it was injected for the last time. Every hour a few drops of water were thrown into the trachea, and the canula was sponged out. For ten days water was instilled. The child brought up pellicular concretions during four days, but on the second day, especially, he expectorated one which had considerable thickness.

The fever, which made its appearance a few hours after the operation, passed away on the third day. On the seventh day, the introduction of a new canula irritated the wound, caused the neck to swell, and excited anew a high fever. These accidents were quieted on the ninth day; on the tenth, the air passed in great measure through the larynx; on the eleventh, I withdrew the canula and closed the wound. The following day, air passed only through the larynx.

Very recently I had a second case of cure, somewhat similar to the former, although in the latter case the child, being two years old less six days, might be classed within the extreme limits of the age which I have pointed out to you. It was a little girl, born on the 30th of April, 1856; she was brought into our wards on the 24th of April, 1858, and presented all the signs of the last stage of croup. We found no trace whatever of pharyngeal diphtheria. I operated, and after the operation shreds of false membranes were discharged through the wound in the neck. Convalescence was long and difficult. Although unsuccessfully attempted several times, the final withdrawal of the canula could not be accomplished until the seventeenth day. Diphtheria attacked the wound, and yielded only to repeated cauterizations. Finally varioloid supervened, but did not prevent her recovery. The child was taken from Hôtel Dieu on the 13th of May.

Science reckons a third case similar to these two; that mentioned by the *Gazette Médicale* (1841 and 1842): it was the case of a child twenty-three months old, who was operated upon and cured by Dr. Maislieurat-Lagémard.

That which among such young children lessens in a marked degree the chances of the success of tracheotomy is the lack of vital resistance, and the difficulty of nourishing the patients; there are also complications to be dreaded, such as the convulsions which are so easily occasioned at that age. Finally, the operation in itself is difficult, by reason of the smallness of the trachea and the shortness of the neck.—*American Med. Monthly.*

Letter from C. Y. Swan, M.D.

To the Editor of the American Medical Times:

PARIS, Oct. 10, 1861.

SIR,—I told you in a preceding letter that M. Maisonneuve intended to amputate limbs by means of his caustic arrows (*caustique en flèches*), and that the reason he would prefer them to écraseurs and catlin(g)s was because no bad accidents ever ensued upon their use for the destruction of tumors.

He has kept good his promise, for last week he essayed this novelty in surgery, and unfortunately or fortunately (decide for yourself), it was without success—the patient died; of course no other result could have better pleased the neighbors of Maisonneuve. In justice, the death argued nothing against the method of operating, which the facts readily prove. The case was one of Hospital gangrene, situate on the hand, already extending up the arm, and already the system poisoned; when Maisonneuve, knowing that amputation after the ordinary manner would be certainly fatal, broke the bones and transfixed the arm at the same point with a fence of *flèches*. Death followed, but the operation bore no relation to the cause.

Some other inventions by the same surgeon will perhaps appear more refined, and therefore more acceptable to American hands. These are for Urethrotomy and Tracheotomy. The former has been already well tested and its superiority proved; for the latter I cannot say so much, as it is but a few days old. The advantages claimed for the Urethrotome are—1st. That the operation is rendered safe and simple. 2d. That the operator feels positive that he cuts nothing but the stricture itself. 3d. That there are no serious after-effects. The mode of operating is as follows: The stricture must be passed, and for so doing a fusiform bougie is first introduced, to which is then screwed a catheter equally fine, having an open seam its whole length. The fusiform bougie coils itself in the bladder, its duty being finished after having conducted the fine catheter through the stricture. The stylet is then put in, and the blade, much too large to be *contained* in so small a catheter, by means of the slit, travels outside, apparently very much endangering the urethral membrane. The membrane though, elastic as it is, is uninjured, owing to the blade being without edge except at its extremity, and consequently all parts, and they only, that resist get cut. The blade resembles the half of an oblong lozenge, and not much sharper except at the bow. Still better, perhaps, I might compare it to a little boat which, starting from the meatus, sails down the canal steered safely by stylet and catheter. If any obstacle is met with it tries to push it aside, and if impossible, the bow cuts the way. It is thus evident that the blade, by its conformation and undeviating guidance by the catheter, cannot cut any thing but that which is desired, namely, the stricture. Spasmodic

stricture will not be cut by it, from which it would almost appear as if the instrument was endowed with instinct. The operation is almost painless, so much so that in several instances the patient has been allowed to operate on himself. M. Maisonneuve states that he cuts strictures in his office, and lets the subjects walk to their home, the same as though he had only made an injection. There has never been a serious hemorrhage or accident of any nature following his operations.

The Tracheotome enables the surgeon to operate with the greatest ease and despatch. I can't say that the danger of hemorrhage is rendered less likely than by the old method, but sometimes rapidity of execution is quite as important as the avoidance of hemorrhage. It is not yet perfected, but thus far the instrument may be compared to a curved needle held in a pair of forceps at right angles, as is commonly done in stiching wounds. Suppose the needle to have but one edge, and that on its concavity instead of sides, an arrow point, and about one and one-half inch long. This cutting needle is firmly fastened to a handle at right angles, not unlike the key of a turnkey. The modus operandi is to pierce through the crico-thyroid membrane, pass down the trachea as far as the length of the blade permits, and most naturally by virtue of the same continued revolving movement the point makes its exit. So far it seems like the third step in ligaturing. Turning further brings into play the edge of the blade which, in cutting the part embraced between heel and point, makes a complete somerset, the point re-arriving a little above where it first entered. But the cricoid cartilage, although embraced by the blade, is not severed, being saved by the bluntness of the heel. A proposed addition to this instrument, now making, is to open the mouth of the wound, and thus with *one single stroke* the trachea is ready for a tube.

Our well-known countryman, Dr. Marion Sims, has been well received by the Frenchmen. He has operated at the St. Louis and Beaujon with his customary success, and besides has given demonstrations on the cadaver.

Double Vision from Injury of Head.

To the Editor of the American Medical Times:

Sir,—The following case of double vision, which has lately come to my notice, is a peculiar one to me, and in the hope that it may prove such to some of your readers, I cheerfully place it at your disposal:

Mary McDonald, aged 12 years, while carrying a pitcher of milk, was thrown down on the sidewalk by a dog running against her; she walked home, but felt herself weak. Shortly after reaching home she commenced to vomit. This occurrence took place on Saturday evening; I saw her early on Monday morning. She was vomiting considerably—face pale, pain in head, but not severe;

pulse regular and rather slow, not over sixty-five; bowels confined. I concluded that vomiting arose from concussion, and accordingly ordered one leech behind each ear; powders of calomel and scammony every two hours till bowels were freely moved; also, sinapism to nape of neck. On Tuesday, the vomiting was relieved, pain in head diminished, and bowels were freely opened; skin cool. On looking at me, she said that I had two heads, and that her mother had the same. I closed one of her eyes, she then saw only one head and face; I shut the other eye, she saw me equally as well. On holding up a finger, she saw two with both eyes, one finger with one eye; pupils contract and dilate regularly. I ordered a leech to each temple, bowels to be kept regular with "black draught." The day following, she was very much improved, and the double vision had all disappeared. She continued convalescing, and is now entirely well.

Yours, etc., JOHN BURKE, M.D.

Treatment of Eczema. By Prof. HEBRA.

The Doctor observes, in one of his clinical lectures, that eczema can always be cured. The treatment should be purely local, internal measures being limited to the rare cases in which the eruption has been produced by a previously diseased condition of the system, or when it is combined with some other affection. In the great bulk of cases, internal means, such as mercury, antimony, iodine, purgatives, sarsaparilla, etc., are superfluous and mischievous. Arsenic is the only one of such means which exerts any influence in obstinate cases; ordinarily, however, it is of no use and its employment should be limited to the few cases which manifest especial obstinacy; the local treatment in these not to be at the same time neglected.

Cold water, in its various modes of application, is of great importance, combined with other means. It aggravates eczema simplex, when arising from excess in secretion, as in the axilla or between the buttocks. Starch, either alone or mixed with oxide of zinc (three ounces of the latter to one drachm of the former) is an excellent application when the eczema arises from the friction of two cutaneous surfaces, or from excessive secretion. Oxyde of zinc (one drachm to one ounce of lard), sulphate or acetate of zinc, alum (one drachm to one pound of water), red or white precipitate (from six to twelve grains with two drachms of lard), are of good service in acute eczema, or in chronic, when there is but slight infiltration and the disease prevails only over a limited extent. When there is considerable infiltration in chronic eczema, *schmierseife* becomes the most preferable remedy. It is to be rubbed over once or twice a day, or more frequently, according to

the degree of infiltration existing. If excoriations have been produced by its use, the surface should be washed and cold applications laid on until the next rubbing. This procedure must be continued as long as the moisture, itching, and infiltration continue, and until the frictions no longer give rise to heat and excoriations of the skin. The soap is then replaced by cold applications and the treatment terminated by the employment of tar.

In many chronic cases, with great infiltration, the soap does not suffice, and we must have recourse to one drachm of caustic potash dissolved in two drachms of water. A pencil of charpie is dipped in this and well rubbed into the diseased parts for some minutes. These are then washed, and cold applications constantly employed. One or two such cauterizations usually suffice, and when more are necessary, they should not be repeated oftener than once a week. It is a very painful procedure.

Tar is in its way just as useful a remedy as the soap, the time for its application being when the moisture and itching have ceased, and exfoliation has commenced, i. e., when eczema squamosum is present. It may be used either alone or mixed with equal parts of cod-liver oil, and should be applied by means of a brush once or twice a day, carefully avoiding washing the parts or allowing water to come into contact with them. As long as any redness or desquamation continues, the tar must be repeated. Sometimes, when the application of the tar has been premature, moisture and itching are observed at certain spots. Then the preliminary treatment has to be resorted to again. Some individuals cannot bear the tar at all, it giving rise to severe inflammatory action. In such cases, an ointment of acetate of lead or oxide of zinc should be substituted.

Cod-liver oil alone is a valuable external application, and sufficient to cure eczema when this has not lasted very long and the infiltration is not considerable. The employment of the oil alone renders the treatment very tedious, and is objectionable on account of the disagreeable smell and befouling the linen; but it is an excellent adjuvatory to schmierseife and cold applications, as flannels soaked in the oil may be kept bound over the diseased parts during the night. Taken internally, the oil does not exert the slightest influence on eczema.—*Amer. Med. Monthly.*

THE *Lancet* has the following suggestions upon "Kleptomania," a form of insanity remarkably prevalent in this country:—

"It is known to those who have the best means of obtaining information, that this itch for appropriation exists to an alarming extent, even amongst what is known as good society. Thus the London shopkeeper who deals largely in 'portable property' of a very valuable kind has often to keep a private Argus constantly on the watch to gently suggest that the Comtesse de l'Arceny must

really restore that bracelet which accidentally got into her ladyship's muff, or to inquire whether the bill shall be sent in for that bit of old lace slipped into her pocket in a fit of abstraction. Of course, if arrested, it would be proved that she had been in the habit of inflicting great grief on her family by the frequent recurrence of similar playful tricks—was, in fact, a kleptomaniac, and therefore to be let off; whereas when the inspector proves a dozen previous convictions against Mrs. William Sykes for shop-lifting, it is considered to show that she is an incorrigibly bad lot, and deserves a proportionally increased punishment. Of course, the old argument would in the former case be urged, that the kleptomaniac is under an irresistible influence inducing the appropriation, with full knowledge of the risk and disgrace incurred if detected. This is simply untrue; for if the desire *were* uncontrollable and the dictates of reason disregarded, articles would be taken in full sight of the owners, and not, as is always the case, craftily purloined in the belief that the theft is unobserved. The ordinary defence as to the crime being evidently without motive is as much opposed to law as the previous argument is to logic. For English law does not trouble itself in cases of larceny with the motive, believing that when the offence is committed, the motive *va sans dire*. Thus Blackstone defines theft to be the felonious taking and carrying away of the personal goods of another, and drily remarks that the offence commenced 'at the time that the laws of *meum* and *tuum* were established, whenever that was.' And we doubt whether the most credulous of these exculpating latitudinarians would consider Bardolph as a kleptomaniac, though his crime was sufficiently motiveless when he 'stole a lute case, bore it twelve leagues, and sold it for three half-pence,' and was eventually hanged for only filching a 'pax of low price.'"

Effects of Religious Excitement.—The annual report of the Irish Lunatic Asylum Inspectors states, that more cases of insanity occurred in Ulster in two months, during the late revival movement, than had taken place in the year. "Religious excitement" is assigned as the cause of insanity in 97 males and 86 females, but it is observable that, though religious excitement was the cause of the breaking down of the mind, the mania is not generally religious. The patient does not rave about religious subjects, but about matters totally different. The religious excitement, like any other violent epidemic excitement, caused the mind to give way in its weakest point, whatever that might have been. "Intemperance and irregularity of life" were the causes of the disease in 241 male and 82 females.—*Brit. Med. Jour.*

Blunders in Pharmaceutical Directions.—A prescription was written for a lady, and in the directions for taking the medicine it was stated that each dose was to be followed by a draught of "*species ad decoctum liquor.*" This latter puzzled the compounder, but, after profound reflection, he hit upon what he thought an agreeable and satisfactory translation, the carrying out of which might safely be left to the patient's liking. The medicine was accordingly sent bearing the following directions upon the label: "xxx drops to be taken 3 times a day, and followed by a *glass of hot punch.*" Unfortunately (or perhaps fortunately for the joke it affords) the patient happened to be a lady of strict temperance habits, and was quite shocked at the idea of sitting down to "a glass of hot punch," three times a day, of which course of dissipation she averred the Doctor had made no mention. A message was accordingly dispatched to the Doctor to inquire if a cup of good tea would not answer in place of the "punch." The physician was nonplussed at first, feeling doubtful of the sanity of his patient, but recollecting the character of her mind, contented himself with recommending that the *punch* should be dispensed with until he had seen his patient. Upon calling, his astonishment may be better imagined than described, when he found upon the label of the bottle the directions as given above. After quieting the anxiety of the lady, he forthwith waited upon the druggist, who confessed the difficulty under which he had labored, and submitted the copy he had made in his book, *the original recipe having been destroyed*, of what he thought the directions should have been. Judge of his amazement and amusement to find the following: "To be followed by a draught of 'spiritus ad decoct. liquor,'" or, as he had freely interpreted it, "hot punch." It was claimed on the part of the compounder that he was assisted in his translation and mystification by a son of Æsculapius who betimes loses his head at the shrine of Bacchus, and in this way accounts for the *spirited* translation produced. We would, however, add, *Hæ nugæ in seria ducant mala.—Brit. Am. Med. Jour.*

Registrar General's Report.—The Registrar-General for England has issued his report for 1859—the 22d annual report. It tells us that the twenty-two years show that on the average there is one death in a year to every 45 persons living, one birth to every 30, one person married to every 61. Of the marriages at church in the year 1859 those by banns were to those by license as 5·296 to 1; and these may be taken as the proportions of the marriages of the higher and middle classes and of the artisan and other classes respectively. But of the 167,723 marriages, 31,513 were not celebrated at church. Of 100 men marrying, 14·10 were widowers; of 100 women marrying, 9·07 were widows. Of 100 men 6·20, and of 100 women 19·10 were minors. These proportions increase year by year; twenty years ago, in 1841, they were

only 4·38 and 13·29; they are the greatest in Staffordshire, Durham, and some of the South Midland counties, where there is profitable work for young persons. Happily, there is also a constant increase in the proportions who are able to sign their names on the marriage register; in 1859 the proportion of men who signed by mark was only 26·7 in 100 marrying, and of women 37·6; in 1841 the proportions were 32·7 and 48 8, so that six per cent. more men and 11 per cent. more women now write their names. But in Staffordshire, even in 1859, the proportions that could not write were no less than 41·7 and 53·2, and in Lancashire 55 per cent. of the women who married signed only by mark. Of the births we learn that 44,751 children, 6·5 per cent. of the children born alive and registered, were born out of wedlock; but, as we lately mentioned, allowing for unregistered births, the real number is larger, and is probably from 8 to 9 per cent. of all the children born alive. To every 100 women living of the age of 15–45 there were 14·9 births in the year, and this proportion is slightly increasing; in 1841 it was only 13·4. The women who bore children in the year were 15·2 of every 100 women (of that age) living. Of the deaths of 1859 we find that the rate in the chief towns was 2·386 per cent., in the small towns and country districts 2·091; the former rate was below, the latter above the average. Of every 100 male children under five the mortality was 7·589 per cent., of 100 female children 6·665—rates higher than the average. At the close of 1859 the aggregate number of names on the register of births, deaths, and marriages, which commenced in 1837, was 28,065,538. —*British Medical Journ.*

The following advice to apothecaries by Dr. Bulleyn, an "interesting and sagacious" London practitioner of the last century, commends itself, in some particulars, to the attention of the drug dispensers of our time:—

"The Apoticarye.—1. Must fyrst serve God, foresee the end, be clenly, pity the poore. 2. Must not be suborned for money to hurt mankynde. 3. His place of dwelling and shop to be clenly to please the senses withal. 4. His garden must be at hand, with plenty of herbes, seedes, and rootes. 5. To sow, set, plant, gather, preserve, and kepe them in due tyme. 6. To read Dioscorides, to know the natures of plants and herbes. 7. To invent medicines to choose by coloure, tast, odour, figure, &c. 8. To have his morters, stilles, pottes, filters, glasses, boxes, cleane and sweete. 9. To have charcoles at hand, to make decoctions, syrups, &c. 10. To kepe his cleane ware closse, and cast away the baggage. 11. To have two places in his shop—one most cleane for the phisik, and a baser place for the chirurgic stuff. 12. That he neither increase nor diminish the physician's bill (*i. e.* prescription), and kepe it for his own discharge. 13. That he neither buy nor sel rotten drugges.

14. That he peruse often his wares, that they corrupt not. 15. That he put not in *quid pro quo* (*i. e. use one ingredient in the place of another when dispensing a physician's prescription*) without advysement. 16. That he may open wel a vein for to helpe pleuresy. 17. That he meddle only in his vocation. 18. That he delyte to reede Nicolaus Myrepus, Valerius Cordus, Johannes Plucaton, the Lubik, &c. 19. That he do remember his office is only to be ye physician's cooke. 20. That he use true measure and weight. 21. To remember his end, and the judgment of God: and thus I do commend him to God, if he be not covetous or crafty, seeking his own lucre before other men's help, succour, and comforte."

The danger of drinking water from wells in cities, especially where intra-mural burying grounds exist, has frequently been proven. During the prevalence of cholera it was discovered that that fatal epidemic was propagated partly by the waters of springs and wells supplied by surface drainage. That many a country churchyard thus contaminates the surrounding wells, and gives origin to apparently causeless epidemics, there can be no doubt. The water that filters through these depositories is generally clear and sparkling from the excess of saline ingredients. Mr. LETHEBY, Health Officer of London, has lately examined thirty-four city pumps, and in every case the water was fouled with surface drainage. In speaking of the influence of the percolations from graveyards, he says .—

"Nor are the percolations from the graveyards of a city less injurious; experience has demonstrated that this also is a prolific source of disease. Sir James M'Grigor relates that when the British army was in Spain, about 20,000 soldiers were buried in a rather small space of ground; this was done in the course of two or three months, and soon the troops who drank the water from the wells of the neighborhood were attacked with dysentery and malignant fevers. The cause of the mischief was clearly traced to the hardly-recognisable impurity in the water from the shallow wells. Here, however, in the churchyards of this city there are the remains of ten times such a buried army undergoing decay; and in the whole of this metropolis, in a space of not more than 218 acres of soil, there were buried not long since as many as 50,000 dead in the year. In a generation of thirty years this would give us 1,500,000 of decomposing bodies in the surface soil of London; and through these the water percolates to find its way into the porus stratum which supplies the shallow wells. At best, the change of this corruption is but imperfect, and the presence of ammonia and saltpetre tells of the process of decay, and indicates the dangers which accompany it."

XUM

Bibliographical Notices and Reviews.

Medical Jurisprudence. By ALFRED SWAINE TAYLOR, M.D., F.R.S.; Fellow of the Royal College of Physicians; Hon. M.D. University St. Andrews; Member of the Royal College of Surgeons, and Professor of Medical Jurisprudence and Chemistry in Guy's Hospital. Fifth American from the Seventh and Revised London edition. Edited with additions by Edward Hartshorne, M.D., one of the Surgeons of the Pennsylvania Hospital. Philadelphia: Blanchard & Lea, pp. 714. 1861. For sale in our city.

In this edition (seventh) the author has not found it necessary to make any extensive changes—some articles have been abridged in order to make room for more recent information, but the general plan of the work has been retained.

Since the first appearance of the work (1844) there have been issued from the press about sixteen thousand copies. This is pretty good evidence that the Medical and Legal professions, for whose assistance the work has been especially intended, appreciate it.

It might not be out of place here to notice also that the Royal College of Physicians and the Society of Arts, have awarded to the author in Jan., 1860, the quinquennial prize of one hundred pounds, and a silver vase of like value.

We have no room for an elaborate review of this work. Nor is it necessary. The work has been before the profession sufficiently long to be appreciated. The recent additions are all, therefore, that require attention.

The first Chapter, among other things, attempts a *definition* of *Poison*. This, in the present state of our knowledge, might as well have been omitted. All the writers that we have consulted have a singular knack of stumbling just here. Perhaps, stumbling is inseperably connected with the effort. Certainly so with the attempt to give a definition that is true both medically and legally, and that is the desideratum.

XUM

In a medical sense poison relates more to *quantity* than quality; in a *legal* sense to the *motive* connected with its administration.

Poison is commonly defined to be a substance which when administered *in small quantities* is capable of acting deleteriously on the body. This would exclude numerous substances—such as nitre, antimony, the salts of copper, lead, zinc—that only act deleteriously when taken in large quantities. This definition is, therefore, untenable. It would also limit the act of poisoning to the administration of such substances as arsenic, strichnia, prussic acid, nicotina, chloroform. Now, inasmuch as *deleterious* consequences must always be the principal thing, the 'Hamlet,' of a definition of poison, does it not follow that any substance may be properly regarded as a poison, if introduced into the organism in sufficient quantity to produce disease or death?

Admitted to be true scientifically, it is easy, however, to discover that such a definition would not meet the wants of legal medicine. Here the *motive* must figure most prominently. The physician in administering arsenic, the preparations of mercury, copper or iron, may destroy the life of his patient; or he may do the same thing just as certainly by ordering inopportunely too much bread or meat, still there would be no criminality in either case, no poisoning in either case—simply ignorance. If held to accountability for such disastrous results, the physician should answer, not to a charge of poisoning, but to one of professional incompetency.

A medico-legal definition of poison, it may now be presumed, should involve two questions: Has the substance been administered with criminal intentions? Has it produced disease or death? Answered in the affirmative, these questions make out a charge of poisoning.

Influence of Habit on Poisons.—To habit we often have to ascribe much of the immunity that often seems to result to those who have accustomed themselves to large doses of drugs. Opium and arsenic eaters become habituated, according to accounts, to these substances, in quantities that seem incredible. Now, while we know that children drugged from infancy with opium, will bear very large doses without apparently suffering much, we are not disposed to believe the extravagant accounts given of the corrosive sublimate eaters of Turkey, or of the opium eaters of China. They need confirmation.

XUM

Idiosyncracy differs from habit in not diminishing the effect of a poison. Any particular state of the body, it is sometimes found is a safeguard against these powerful agents. Christison gives an instance in which a gentleman unaccustomed to opium took nearly an ounce of good laudanum without any effect. Substances generally reputed harmless, or used as food, affect some persons like poisons. This is the case with pork, mushrooms, and certain kinds of shell-fish.

Our author adopts the following as a classification of Poisons: *Irritants* and *Neurotics*. Irritants are those that impress the surfaces in a way that gives rise to speedy violent vomiting, purging, pain in the stomach and bowels, etc. Neurotics act upon the nervous system, and their operation is chiefly confined to the brain and spinal marrow. The symptoms here are headache, numbness, paralysis, stupor, convulsions.

Of course, no well defined boundary exists between these two classes of poisons. Arsenic, that belongs to the former class, often produces paralysis, stupor, convulsions; on the other hand, how often is it the case that an overdose of opium produces pain and vomiting?

Disputed Paternity.—We find discussed under this head some questions that seem very difficult of solution. English law, it is said, does not pretend to determine who begot a child when it has been born during wedlock, and from circumstances might be the child either of the husband or an adulterer, but medical jurists have recommended that family likenesses should be looked to on these occasions, not merely a likeness in feature and figure, but in gesture and other personal peculiarities, which might have characterized the alledged parent. In confirmation a case is given in which a witness swore, in regard to a child whose legitimacy was concerned, that he bore so strong a likeness to the alledged adulterer, that he should have known him among five hundred children.

We give the following extract in regard to the Douglas Peerage case:

"The proceedings in the *Douglas Peerage* case also show that evidence of this kind is occasionally of some importance. This peerage was claimed by Archibald Douglas—the survivor of two brothers after the death of the alleged parents, Sir John and Lady Douglas. The claim was disputed, on the ground that the appelant and his deseased brother were suppositious children. Evidence for and against the legitimacy of the claimant had been collected from every quarter, and after it had been

most minutely sifted and criticized, the case came on for judgment in the Court of Sessions in Scotland on the 7th of July, 1767. So important was the cause deemed, that the fifteen judges took eight days to deliver their opinions. The result was that seven of the judges voted in favor of the identity or legitimacy of Mr. Stewart, and seven against it; the Lord President, who had the casting vote, agreed with the latter, by which Douglas, *alias* Stewart, was cast on the world without either name or estate, thus furnishing one among numerous instances that judges as well as doctors can differ with precisely the same facts before them. An appeal from this decision was taken to the House of Lords, by which the judgment of the Court of Sessions was reversed in 1769, and Archibald Stewart, or Douglas, declared to be the undoubted son of Lady Jane, the sister of the late duke. Much stress was laid, in favor of the legitimacy of the children, on the fact that they closely resembled—the one Sir John, and the other Lady Douglas. The resemblance was said to be general; it was evident in their features, gestures, and habits. Lord Mansfield, in delivering judgment, made the following remarks, which comprise all that can be said on the subject. 'I have always considered likeness as an argument of a child being the son of a parent, and the rather as the distinction between individuals in the human species is more discernable than between other animals. A man may survey ten thousand people before he sees two faces exactly alike; and in an army of a hundred thousand men, every man may be known from another. If there should be a likeness of feature, there may be a difference in the voice, gesture, or other characters; whereas a family likeness runs generally through all of these: for in everything there is a resemblance, as of feature, voice attitude, and action.' This kind of evidence has been strongly objected to from its uncertainty; and I am informed, on good authority, that it was in this instance much disputed whether one of the children did resemble Lady Douglas. It seems to have been generally admitted that the other child resembled Sir John Douglas. From this account, it will be seen that evidence from family-likeness, is not strictly medico-legal—it can be furnished only by friends and relatives who have known the parties well, and are competent to speak of the facts from personal acquaintance with them. It will also be apparent that the affirmative evidence in such cases will be stronger than that which is negative; for it could hardly be inferred that a person was illegitimate, because he did not resemble his parent."

It is unnecessary for us to endorse this work. The number of editions through which it has passed at home imports very fully the estimate placed upon it by our transatlantic brethren. Although the whole subject of Medical Jurisprudence is considered in a space less than 800 pages, still we have a very available work, lacking in no essential particular. Indeed, it is *multum in parvo* so far as *matter* is concerned, and withal fully up to the times.

XUM

The American publishers, too, have laid the profession under obligations for the handsome and durable dress of the work.

Physician's Visiting List, for 1862. Philadelphia: Lindsay & Blackiston.

These little books have become almost a necessity with those who have experience in their use. The one before us is prepared with care, and its arrangement will be found very convenient. We have an *Almanac, Table of Signs, Marshall Hall's ready method in Asphyxia, Poisons and their Antidotes, Table for Calculating the period of Utero-Gestation ; blank leaves for visiting list, for memoranda, addresses of patients,* etc., etc.

Editorial and Miscellaneous.

New Arrangement.—The volume of this work, and as a consequence the fiscal year, commenced heretofore on the 1st of September. For some time we have been desirous of making a change. This has now been done, and hereafter the volume will commence on the 1st of January, a time of the year more suitable to all parties.

It will be noticed, by the cover, that the work in the future will be conducted by the Faculty of Starling Medical College. The Faculty will constitute an Editorial Corps, while the business department will be managed exclusively by Prof. T. G. Wormley.

These changes, we hope, will be satisfactory to our readers. They will certainly secure a greater amount of labor for the great purpose in view—that of making the work the faithful expositor of Current Medical Literature.

Hereafter each member of the Faculty will, as far as possible, contribute to the Review Department. This will result in careful and exhaustive reviews of all new books.

XUM

To Subscribers.—To Prof. T. G. Wormley has been transferred the Business Department of this work. He is now the *Publisher*, and authorized to receive from subscribers all arrearages. Business communications, therefore, will hereafter be addressed to Prof. T. G. Wormley, Columbus, O.

Every thing designed for the columns of the Journal, such as Original Communications, Reports of Societies, etc., may be addressed to Prof. Jno. Dawson, Columbus, O.

Books Received.—Notes on the Surgery of the Crimean War, by Geo. H. B. Macleod, M.D., F.R.C.S., Surgeon to the General Hospital before Sebastopol. Philadelphia: J. B. Lippincott & Co. 1861.

Principles and Practice of Obstetrics, by Gunning S. Bedford, A.M., M.D., Prof. of Obstetrics and Diseases of Women and Children in the University of New York. Sam'l S. and Wm. Wood, 389 Broadway. 1862.

Lectures on Diseases of Women, by Charles West, M.D., Fellow of the Royal College of Physicians, etc., etc. Second American, from the Second London Edition. Philadelphia: Blanchard & Lea. 1861.

The above books will be reviewed in our March No. They are all works of merit.

Our Exchanges.—We have to regret the non-appearance of quite a large proportion of our "Exchanges." Those from the slaveholding States have, as we understand, been suspended. Some, too, belonging to the free States within the last six months have ceased to make their appearance, because of the political troubles of the country.

Qualifications of Army Surgeons.—The Report just made to the Secretary of War, at Washington, discloses fearful incompetency of Army Surgeons. Not having the medical mind occupied of late in this country with Military Surgery, or the Diseases of Camp life, was it to be expected that a large army could at once be supplied with medical men, in all respects, qualified for such

arduous and important duties? The getting up of surgeons, like the getting up of soldiers, is a work not accomplished in a few weeks, or a few months. The process requires time, involves thought, and a return to and a re-communion with first principles.

The field, to most of our Surgeons, was as new even in theory as in practice. How few the number in this country who have had their minds on medical topography, the accidents of the battle-field, the means of protecting against "*crowd*" poisons!

While, then, we should not fix up too high a standard of qualifications, no one, however, can fail to regard with the deepest solicitude the amount of medical capacity invested in favor of the soldier. In view, now, of such a state of things, what better can be done than that Surgeons at once review their stock of Anatomy—a branch of learning without which there can be neither medicine nor surgery? The old adage, that "*a good Anatomist can operate any way*," is as true now as when first uttered. Something else is also true just here: "*A poor Anatomist* can operate NO way."

But anatomical information is not all. The *debris* that falls from the human body, and which, in times of peace, seldom receives any attention, become, when large numbers of men are collected together in tents, prisons, or hospitals, a source of trouble that can scarcely be overestimated. Ninety per cent. of the mortality of armies is due to this cause. Unaccustomed to the common agency of such a power for evil, few of those having charge of the corps d'armées of the country are prepared to estimate the dangers with which they are surrounded. Here works on Physiology, Hygiene, and the history of Army diseases will come into play. How many of our young Surgeons are posted up on the amount of poisonous matter eliminated by the excretory organs every twenty-four hours? How many prepared for the diseases generated by such matters, from accumulation, on the shirts and pantaloons of the soldiers? How many are prepared to guard against the sickness from simply a change of habit? Upon such subjects ancient literature is rich. Sir John Pringle, who wrote more than a century since, may be mentioned as one of the authors that will pay perusal. His style is charming, his details elaborate, his deductions philosophical. Notes on the Surgery of the Crimean War, by G. H. B. Macleod, M.D., F.R.C.S., is perhaps the most modern work. It abounds in medical as well as surgical information, and is a very clever production.

We hope these suggestions may be received in the spirit by which they have been dictated. The summary call of the country may be plead for awhile in extenuation of uncommon sickness and mortality; but the people expect the medical capacity to rise and be equal to the emergencies. The country, every where, is full of books, full of dissecting material. "Where there is a will, there is a way."

THE March No. of the Journal will, we think, appear promptly at the time due. The delay of this number was unavoidable.

Total Inversion of the Uterus, with an adherent Placenta following a Natural Labor—Death of the Patient. By ORVILLE N. ELLIS, M.D., Dresden, O.

On Monday, May 6th, about one o'clock P. M., was called to see Mrs. R. G——, æt. 26, a woman of sanguineo-lymphatic temperament, in her third labor. Made an examination per vagina; found the os uteri dilated to about the size of a quarter dollar. After a few moments conversation with the patient, and some charges to the attendants, I left her room, and did not see her again until four o'clock of the same afternoon. During this interval the labor had progressed rather slowly, owing to the rigidity of the parts, and, knowing her previous history, did not think of any thing else than a tedious labor. The pains, however, grew more marked and distinct in the course of half an hour afterward; and at about half past five o'clock, four and a half hours from my first visit, a healthy female child was born. The woman was not fatigued, was in good spirits, and conversed freely with her attendants. Soon after the birth of the child, not to exceed a quarter of an hour, she began to have strong expulsive pains accompanied with some hemorrhage, though not to exceed the usual quantity. They continued for a short time, appearing at longer intervals, and finally ceased altogether. I now made a thorough examination of the interior of the uterus; found its walls patulous, the placenta at the fundus, very large in size, and very hard to the touch. The usual "ready remedies," friction over the utero-abdominal surface, cold applications, etc., were used, but with no effect; and from the very alarming nervous prostration, and request of the patient, I sent for counsel.

Drs. Cass and Lemert came promptly to my assistance. Teaspoonful doses of wine of ergot were administered at intervals of ten minutes, sufficient to quicken the contractions, with friction over the abdomen. Strong contractions now came on. The uterus could be distinctly felt as a round, hardened mass; but at the fundus little or no contractions could be felt during a pain. But a short time had elapsed from the administration of the third dose of ergot, and whilst my hand was on the abdomen, I felt the uterus contract suddenly, and as suddenly glide from under my hand. Upon examination, the cavity of the vagina was found filled, and a substance supposed by us all to be the placenta. Following this, alarming prostration seized the patient, "feeling," as she described it, "as if she was sinking through the bed." Stimulants were now promptly administered, but with little or no effect. Upon examination, a mass resembling a large piece of *boiled liver* in color, but very hard in consistency, was found protruding entirely from the vagina. The umbilical cord was attached to the centre of this carnaceous mass, being very large and soft. As the parts relaxed the tumor increased in size, but no membranes could be found upon or about it. There could be no doubt now as to the case being one of complete inversion, as the broad and round ligaments could be felt just behind the protruding tumor. With great difficulty the placental mass was separated from the uterus, which was immediately replaced, contracting, upon itself, to the natural size, with the removal of the hand. All our efforts were now directed to the sinking condition of the patient, but she failed to rally, and died at 9 o'clock of the same evening.

There are several particulars in the history of the above case which it may not be out of place to mention here. In her first labor she was attended by an "Eclectic." Alarming hemorrhage followed delivery, and the patient was saved only by the well-timed exertions of an old physician of this place. At her second labor, alarming symptoms, similar to those at her third and last labor, appeared, but were terminated by a speedy expulsion of the placenta, leaving her, however, in a very critical state for a fortnight afterward. This was about two years ago, since which time I have been the regular family physician. During her last pregnancy nothing known to me happened that would not warrant in predicting a favorable termination.

There are but few cases on record of complete inversion of the

XUM

uterus, though the lesion is mentioned by all writers on Obstetrics. Nearly all authors agree that an inversion can not happen unless force be applied at the funis. Dewees cautions young obstetricians particularly not to pull at the cord, as also does Ramsbotham. The last named author, in his admirable work, records a case which happened under his own observation, at the Royal Maternity Hospital. When seen by him the patient was in a dying condition, and examination revealed total and complete inversion. The attendant assured him that no force whatever had been applied at the cord, and says, although "inversion may be looked upon as a consequence of improper treatment, it may certainly occur without force being applied to the funis."

Of such a description was the above case. At no time was any force applied at the cord, yet there was complete inversion of the uterus, followed by a speedy dissolution. The amount of hemorrhage was not sufficient to effect such a result. In fact the patient could have lost three times the amount of blood and yet lived but for inversion. Now as to the *cause*, older and wiser heads than mine must settle that; still, I will take the liberty of giving my own opinion.

Bearing in mind the unusual size of the placenta, and the inertia of the uterus consequent on the delivery of the child, I can only account for the inversion by the *extreme bearing down* of the patient, attributable in part, no doubt, to the remedy administered—ergot. If gravitation has effect—and who will say that it has not?—why not act mechanically to drag or pull down from its position an uterus whose walls have lost their muscular contractility? After the birth of the child there never was, in my opinion, any regular contractions of the uterine walls.

My belief is that, in all cases where there is an adherent placenta, the whole contractile powers of the uterus are expended at that one point. From this cause the energies of the uterus become rapidly lost, and hemorrhage, or some equally dangerous sequent, follows the failure to throw off the secundines. Equally fatal to the patient is this condition, rendering it, to the physician as in inversion, barely possible to avert that fatal catastrophe dreaded by us all—death.

Close of the Volume.—The present number closes volume the nineteenth of our Journal. We commenced this year under circumstances of unusual prosperity—many new subscribers were added to our list, and our future seemed bright and encouraging beyond any former period. But the calamities which have fallen so heavily on the country at large, have also affected us most seriously. Many of our subscribers have been unceremoniously cut off by the discontinuance of the mails south of us, but even where this is not the case, many more of them have quit their homes and gone into camp, where they will probably remain until the war is over, while those who continue at their posts have their minds so pre-occupied by the stirring events which are taking place around them, as to render them almost wholly indifferent to professional reading—such pursuit being far too tame amid the great excitement by which they are surrounded, and in which they so naturally participate. This is one of the necessary evils of the evil times upon which we have fallen, yet it has very materially curtailed our receipts, and otherwise dampened our ardor.

The condition of our State and country—the lack of interest which our readers feel, and which we ourselves feel in matters medical just at this time, has determined us to hold on for the present and watch the progress of events. Our next number may not therefore appear at the usual time. We do not wish to be misunderstood; *we are not under the necessity, nor do we mean to suspend the* publication of the St. Louis Medical and Surgical Journal, but we only mean to remain quiet for a while—it may only be a very short time—until the political cauldron shall have ceased to boil so furiously as at the present, and public affairs in this region have assumed a definite shape, when in common with our readers we will doubtless feel our accustomed interest in medical affairs, which is not the case at present. We take no leave, therefore, of our readers, nor of our cotemporaries, for, Providence permitting, they shall both hear from us again.—*St. Louis Medical and Surgical Journal.*

Proposed Corps of Medical Cadets.—The following circular from the Surgeon-General U. S. A., will explain itself. We insert it for the benefit of our junior readers—under-graduates in medicine. If they wish to undergo an apprenticeship admirably

adapted to familiarize them with the practical duties of their profession, here is an opportunity. In our opinion, such a service would prove of far more value than a course of lectures, and might at this juncture be well substituted for the class room.

"SURGEON-GENERAL'S OFFICE, Aug. 6, 1861.

"The following act of Congress in relation to the Corps of Medical Cadets is published for the information of all concerned:

"'SEC. 7. *And be it further enacted*, That there be added to the Medical Staff of the Army a Corps of Medical Cadets, whose duty it shall be to act as dressers in the general hospitals and as ambulance attendants in the field, under the direction and control of the medical officers alone. They shall have the same rank and pay as the Military Cadets at West Point. Their number shall be regulated by the exigencies of service, at no time to exceed fifty. It shall be composed of young men of liberal education, students of medicine, between the ages of eighteen and twenty-three, who have been reading medicine for two years and have attended at least one course of lectures in a medical college. They shall enlist for one year, and be subject to the rules and articles of War. On the fifteenth day of the last month of their service, the near approach of their discharge shall be reported to the Surgeon-General, in order, if desired, that they may be relieved by another detail of applicants.'

"Application must be made to the Surgeon-General for admission into the corps, in conformity with the above act, stating the date and place of birth, place of residence, period of medical studies, and enclosing the certificate of the dean of the college (or, when not attainable, other satisfactory evidence of the fact), that the applicant had attended one full course in a medical college. Those applications must also be accompanied with testimonials of the good moral character and sound physical condition of the candidate.

"When an applicant is favorably considered, the candidate will receive a letter authorizing him to appear before an Army Board of Medical Examiners, who will make a special report in such case. From among those approved by the Board, the Surgeon-General will select such a number as the service may require.

"As the services of this class of medical and surgical assistants are at once required, applications (to be successful) should be

promptly made to the Surgeon-General, who will direct the candidate to appear before one of the Army Medical Boards now in session in Washington and the city of New York.

"R. S. Wood, Acting Surgical-Gen."

Mal-practice and Deception of a Quack.—The American Medical Times of New York, says: "A case was recently tried in an interior town, in which the defendant, a quack, was charged with mal-practice, in the treatment of disease of the uterus. It was alleged that he was accustomed to diagnose a tumor of the uterus in every case, and that on the first examination he would contrive to introduce, unobserved, a piece of raw meat. He then began to make local applications, and in due time, after much offensive discharge, and no little discomfort, the offending substance would escape, to the great relief of the sufferer. In this case the patient was struck with the resemblance of the tumor to a piece of meat, and took it to a physician, who submitted it to a microscopical examination, when its nature was discovered. The result of the trial was a verdict of $1,000 against the defendant."

Medical Hospital at Richmond, Va.—The Med. and Surg. Reporter says: This hospital is just now completed at an expense of $20,000, and is open for the reception of patients. It is provided with every convenience necessary for the comfort and successful treatment of the sick, who are all under the immediate care of the Professors of the Medical College. Attending Surgeons, Drs. Gibson, Peticolas, and Wellford. Attending Physicians, Drs. Tucker, Conway, and McCaw. Resident Physician, Dr. Isaiah H. White.

Dupuytren on Spurious Pregnancy.—The Berkshire Medical Journal copies the following from the Med. News and Lib.: "Prof. Simpson, in lecturing on spurious pregnancy, tells the following good story of Dupuytren. 'Such cases are, happily, extremely rare; but you do meet with them occasionally, and not in patients within the walls of a lunatic asylum only. It is told that a lady once came to Dupuytren, to ask what was to be done in her case,

as she had now been in a family way for fourteen years—and the great Parisian surgeon gave it as his opinion, that as the boy must be tolerably well grown by that time, the best thing the lady could do was to swallow a tutor immediately, that his education might not be neglected.' "

NEW RHINOPLASTIC OPERATION.—Dr. E. S. Cooper states (*San Francisco Medical Press*, July, 1861), that he has "had several cases, recently, in which we practiced, with entire success, the method of introducing thin arched plates of virgin silver into the soft tissues, to hold them up, when the bones of the nose had been lost. Thus far, they bid fair to succeed admirably, as there is every prospect that these plates will become encysted, in most cases, though time enough has not yet been given to test the method, in this respect. There is one advantage this plan has over that of transplantation, viz: that it entails no additional deformity, even should it fail entirely in relieving the one for which it is tried, and we believe that, in all cases, it may be rendered beneficial, where bony structure alone has been lost. We have a case under treatment now, in which a considerable part of the ossa nasi, the vomer, and a fragment of the superior maxilla were lost—so much so, that the major part of the tissues, representing the nose, rested entirely below the surrounding surface. A more disagreeable deformity of that organ could not possibly occur.

"The operation, in this case, consisted in raising the integument, which was formerly the covering of the nose, upon the blades of a small pair of forceps, dividing them, in a median line, for nearly an inch. After which, the scalpel was passed on either side, so as to separate them into two plates, to the same extent in width as the incision was long. The knife was passed under the skin for nearly two inches, on either side, for the purpose of increasing the capacity of its stretching qualities. Two arched plates of silver, shaped like the ossa nasi, three lines wide, were introduced, and the integuments brought over them, so that the nose at once assumed the natural shape of one pretty well formed, which it retains still, six weeks after the operation. This, and other cases, shall be published in detail, as soon as their ultimatum is known.

"It is quite certain that this operation will almost always be of benefit, when the bones of the nose are lost and the soft parts de-

pressed, because, should we be compelled to remove the plates, after three or four months, the parts will become so much consolidated as to retain, to a great extent, their new position. This has occurred in one case already.

"The deposit and hardening of tissues around the metal were sufficient to retain the parts elevated after its removal, and thereby to remove almost entirely the deformity. The subject shall be discussed fully, as experience enables us to speak practically of it in all its bearings. The method of operating will be described more fully when the cases are given *in extenso.*"

PIROGOFF'S OPERATION.—As this operation at the ankle-joint has been recommended in an order from the Medical Director of the army, in preference to Chopart's or to amputation above the ankle, it may be interesting to our readers to see a description of that operation, as given by the author himself. He says:

"I commence my incision close in front of the outer malleolus, carry it vertically downwards to the sole of the foot, then transversely across the sole, and lastly obliquely upwards to the inner malleolus, where I terminate it a couple of lines anterior to the malleolus. Thus all the soft parts are divided at once quite down to the os calcis. I now connect the outer and inner extremity of this first incision by a second semi-lunar incision, the convexity of which looks forward, carried a few lines anterior to the tibio-tarsal articulation. I cut through all the soft parts at once down to the bones, and then proceed to open the joint from the front, cutting through the lateral ligaments, and thus exarticulate the head of the astragalus. I now place a small, narrow amputation saw obliquely upon the os calcis, behind the astragalus, exactly upon the sustentaculum tali, and saw through the os calcis, so that the saw passes into the first incision through the soft parts. Saw carefully, or the anterior surface of the tendo achilles, which is only covered by a layer of fat, and a thin fibrous sheath, might be injured. I separate the short anterior flap from the two malleoli, and saw through them at the same time close to their base. I turn this flap forwards, and bring the cut surface of the os calcis in opposition with the articular surface of the tibia. If the latter be diseased, it is sometimes necessary also to saw off from it a thin slice with the malleoli."

XUM

He thus sums up its absolute and relative merits:

"1. The tendo achillis is not divided, and so we avoid all the disadvantages connected with its injury. 2. It also follows that the base of the posterior flap is not thinner than its apex, while the skin on the base of the flap remains ununited with the fibrous sheath of the tendo achillis. 3. The posterior flap is cap-like, as in Syme's method, and its form is therefore less favorable to a collection of pus. 4. The leg, after my operation, appears an inch and a half (sometimes even more) longer than in the three other operations (Syme, Baudens, Roux), because the remnant of the os calcis left in the flap, as it unites with the inferior extremities of the tibia and fibula, lengthens them by an inch and a half; and 5. Serves the patient as the point of support."—*Reporter.*

Penalty of Overwork.—Overwork, and its penalty, worn out brain and early death, are common enough amongst ourselves, but perhaps there is no better example of the beginning, middle and end of such a case than is afforded by the late Augustus Welby Pugin, a celebrated English architect, and narrated in Mr. Ferry's very interesting "Recollections of Pugin." He was "delicate as an infant;" when at school "he showed remarkable aptitude for acquiring knowledge," and whether in "Greek, Latin, mathematics, or any other branch of education, would learn in twenty-four hours what it took other boys many weeks to acquire;" he was quick, fluent in speech, voluble, dogmatic, and vehement in manner; he hated children's society, and loved that of his elders. From his precocity of talent, he was largely employed as an artist when a mere stripling, and was designing George the Fourth's furniture at Windsor when sixteen. He entered into business, set up an establishment of artist workmen, got into pecuniary difficulties, and was arrested when eighteen. He married; and was husband, father, and widower before he had completed his twentieth year. Then followed twenty years of the most intense excitement and exhausting labor; rapid journeys; a second and third marriage, and two, at least, most bitter disappointments in love between them; a change of religion, and a perfect tempest of controversial pamphleteering. Habits of life, of rapid and restless locomotion, and of severe labor when at home; rising at six;

two hours hard work before breakfast, "which seldom lasted more than *seven minutes;*" hard work again till dinner, "when his fare was of the simplest description, without wine or malt liquor, and this meal generally lasted *a quarter of an hour;*" after dinner more work till bed time; "when he returned from town he always wrote letters in the railway carriage." What wonder that at the age of forty he became irritable and nervous, and quarreled with his oldest friends; or, as he described himself, "thin, trembling, hollow-eyed, changed, and yet working tremenduously at times." Soon after, meeting his Medical attendant at Ramsgate, where he lived, he told him a story of the foundering of five merchant ships, which was sheer hallucination; this was followed speedily by complete mental decay and early death, just at the age when experience begins to ripen, and a man's early work ought to bear fruit for himself, his family, and the world. Pugin is a man whose influence is seen and felt in every street and every house, in the substitution of the bold, picturesque, Gothic outlines, and harmoniously colored materials of modern buildings, for the monotonous pseudo-classic of the last generation; in the graceful forms of domestic furniture, and the truer and more natural school of art. If he had worked less, taken more time to his meals, and quieted his brain with tobacco or wine, so as not to live so fast, he might, perhaps, have been living now.—*London Medical Times.*

Cases in Military Surgery—Gunshot Wounds of Pelvis, Thorax, Knee, Trachea, Thigh, and Arm. By WILLIAM O'MEAGHER, M.D., Surgeon 37th Regiment, N. Y. V.

Gunshot Wound through the Pelvis, Intestines, and Anterior Abdominal Wall.—On the night of Tuesday, Aug. 27th, while a large portion of the regiment was on picket duty at Bailey's Cross Roads, at that time one of the outposts of the army on this side, the reserve corps, stationed in front of a house adjacent to the road, resting themselves until their turn should come to relieve the others, were suddenly startled to their feet by the report of some shots fired at a little distance in the rear. A sudden rush was made for the muskets lying on the ground before the men, and, in the confusion incident to the sudden movement, one piece went off accidentally. The next moment I saw one of the men, who happened to sit in

advance of the main body against the railing in front, and a little behind another officer and myself, suddenly start up and then tumble over writhing in agony. He rose again, tottered a few paces, and again fell over.

In consequence of our immediate proximity to the enemy, then only a quarter of a mile distant, I was unable to use a light during the necessary examination; besides, he was with difficulty kept from rolling about, until his agony was somewhat relieved by a grain of morphia. Meantime, I was engaged in exploring the wound, which was plainly indicated by abundant hæmorrhage and by the patient himself pressing his hands tightly on the lower portion of his back. The bullet had passed through the upper part of the left sacro-iliac symphysis, through the intestines, escaping anteriorly in the right groin, and finally, through the clothing, being then lost. Vomiting soon set in, and during the consequent exertions, a knuckle of small intestines, wounded, protruded through the anterior opening, but was easily reduced when the vomiting ceased, and he was able to swallow some stimulants and another opiate. Compresses of lint and a broad bandage were then applied, the hæmorrhage ceased, and pulsations in the radial and femoral arteries indicated commencing reaction. A door, taken from the hinges, covered with straw and a blanket, served for a litter, on which, supported by muskets and relays of six men at a time, he was carried a distance of about three miles until we reached the field ambulance, which, owing to the road being obstructedly barricaded, could not approach nearer.

He was thence carried to the Washington Infirmary on E street, where he died in about fifteen minutes afterwards, and about ten hours after the accident. During the journey he was somewhat comfortable, notwithstanding the roughness of the road, and seemed to rally pretty well, sufficiently to converse with the chaplain. Vomiting had not returned, and he was thus able to take stimulants combined at intervals with anodynes. Though very anxious to see the post-mortem examination, which I presumed would follow, I was prevented calling at the hospital owing to more engrossing duties. I called there subsequently, however, and asked the surgeon in charge, by note, to furnish me with the record, but I received neither a reply nor the expected information.

Gunshot Wound of Thorax and Lungs.—Private Cooke, of the 2d Michigan, while on picket duty near the Cross Roads, received

from the enemy's picket a gunshot wound through the lungs, and when discovered by his comrades, who hastened to the spot, was found faint from profuse hæmorrhage, and lying on the wounded side. By them he was conveyed in a blanket to the main body stationed at the Cross Roads, the distance being about a mile, and on their arrival I saw him immediately. On examination, his clothes behind were found saturated with blood, while several large clots were removed from the immediate vicinity of the wound. As he was extremely prostrated, some stimulants were gradually administered until reaction commenced, and, in the mean time, I was searching for the exit of the bullet, which had entered the left side posteriorly, fracturing the tenth rib and making quite a large, irregular, wound. On introducing my finger for about two inches for the purpose of exploring and removing foreign substances, I felt the lung tissue, and found the wound itself partially filled with coagula and extending towards the opposite side in a transverse direction; emphysema appeared to some extent in the vicinity. I did not attempt a further exploration, especially as the wound, as far as I could discover, appeared free from foreign substances and partially closed. Shredded lint was then applied to the wound, and the patient gently turned over on the wounded side. On searching for the exit of the ball, the only indication of its presence was a patch of emphysema on the opposite side, somewhat higher up than the aperture, but the ball itself could not be felt, so I resolved to wait awhile in order to allow the patient to recover somewhat, hoping that, in the mean time, the respiratory efforts, increased by a pretty tight bandage, would force the ball outwards and thus render it palpable. Accordingly, in about four hours, he began to experience severe pain in this part, and on removing the bandage, at the same time directing him to take in a full breath, which he did with ease and evident relief, I was exceedingly gratified to find the ball presenting itself in the sixth intercostal space. On cutting down, I found it firmly imbedded in the costal pleura, and after a little delay, occasioned by a desire not to make a large opening, removed it with a common forceps, and immediately closed the wound with interrupted sutures. The bandage was again applied, and a full anodyne administered, after which he slept well for two hours and felt very much relieved. The missile, contrary to my first anticipations, turned out to be a small triangular shaped rifle bullet, irregular and rough at the edges, as if it were so de-

signed to produce greater mischief. He continued very comfortable for two days, taking light nourishment and appearing quite cheerful and intelligent, occasionally only being attacked with dyspnœa, which, however, was never sufficient to cause any apprehension. Obedient to directions, he lay perfectly still, without talking, except in answer to a necessary question as to his condition. His bed was a canvas field-stretcher, with poles inserted into the folded canvas, which was also attached to the end pieces by buttons and cords. The iron framework at the ends raised it from the ground sufficiently to afford a safe, easy, and efficacious means of transportation, far superior, in my opinion, to any other thus far presented, and certainly better than field ambulances over rough roads. On this he was conveyed, the third day, a distance of perhaps ten miles, to the general hospital in Alexandria, where he died on the fifth day. I am indebted to Dr. H. Laurence Sheldon, the surgeon in charge, for the following record of the autopsy:

"Left side of chest filled with bloody serum; lung compressed, and a space between anterior parietes and surface of lung filled with air. Lymph covered the visceral and parietal pleuræ, and clots of blood were on the most dependent portion of the cavity. The ball struck the tenth rib, fracturing it three inches from its articulation with vertebræ, passed through the lower lobe of left lung, where there was intense inflammation in its track, with numerous spiculæ of bone carried two inches into substance of lung from the fractured rib, thence through body of tenth vertebra, through diaphragm and upper surface of liver, a distance of two inches; again through diaphragm, and was removed externally between sixth and seventh ribs. There was a patch of pneumonia on the right lower lobe. Half a gallon of serum and blood was taken from both pleural cavities."

I should have mentioned as rather remarkable, that, for three days, though he had considerable dyspnœ, and pain referred to in both places, he had neither cough nor expectoration until the fourth day, leading some to suppose that both lungs were not seriously wounded, as I had at first reported, the ball rather making a circuit *outside* the lung. But I think it almost impossible that the right lower lobe could escape when the ball passed *twice* through the diaphragm and upper surface of the liver, being finally removed from the *sixth* intercostal space; besides, "there was a patch of

pneumonia on the right lower lobe, and half a gallon of serum taken from *both* pleural cavities."

Bayonet Wound of Trachea—Emphysema.—Private Betson accidentally received a thrust of a bayonet in the neck opening into the larynx and producing considerable emphysema, tickling cough, and bloody expectoration. He recovered rapidly, however, without a bad symptom, some slight aphonia alone remaining for a short time.

Bayonet Wound of Knee-Joint—Synovitis.—Private —— received an accidental wound of the knee-joint, between the border of the patella and internal condyle of the femur. At first, little was thought of it, a few adhesive straps and a roller bandage being applied, and the patient returned to duty. In a few days, owing, doubtless, to imprudence and over-exercise, inflammation, accompanied by pain, fever, swelling, and effusion, set in, while the wound assumed an angry fungoid appearance; but by means of rest in the recumbent position, elevation of the extremity, water dressing, and other antiphlogistic adjuvants, the pain and other symptoms slowly abated at the end of three weeks, leaving the patient, however, lame and stiff at the joint.

Gunshot Wound of Thigh.—Lieut. Massey, while on picket duty at Munson's Hill, received a shot from a small revolver, the bullet lodging anteriorly in the upper third of the thigh, near Scarpa's space. After a thorough search for the bullet, both by Dr. McNulty and myself, it could not be found. A pledget of lint, wet with cold water, was applied, and the patient directed to keep quiet. Two or three days afterwards, though the irritation and pain still continued, he felt so well that he asked permission to go around with a stick, which was permitted. For a while he walked rather lame, but gradually he began to exercise more freely, and in less than three weeks returned to duty. It has not troubled him since.

Capt. Rividan received a shot from a revolver, the bullet passing antero-posteriorly through the calf of the leg, about the middle, and externally to the tibia, which, though grazed, escaped uninjured. In this case, also, the patient, after a few days' rest, began to walk around freely, and in three weeks resumed his ordinary duties. The same gentleman subsequently received a wound of the great toe, on the march to Fairfax Court House, on the eventful day of

the battle of Bull Run, by which the toe was severely mashed, requiring evulsion of the nail. He continued to march notwithstanding, though offered a mode of conveyance, and, when the regiment was ordered to return to Alexandria, remained with his company during a severe night. Cold water dressing only was applied with lint and bandage, and in a few days the wound was entirely healed.

Gunshot Wound of Right Index Finger—Fracture of the First Phalanx.—Sergeant Scott had the index finger of the right hand wounded by a ball from a revolver, fracturing the first phalanx about the middle, the joint also being opened and injured. At first, amputation was thought to be necessary, from the mutilated condition of the finger, but it was resolved to try what conservative surgery could effect, for a day or two. Accordingly, a splint was applied on the palmar aspect and cold water dressings used, the arm being suspended in a sling. For three weeks subsequently nothing more was done, except to renew the dressing. The external wound healed up kindly within that period, and in a month he was able to use his musket, the stiffness of the joint having been overcome by passive motion.

Gunshot Wound of Arm.—Private Hicks received a shot from a revolver in the lower third of the arm, the bullet passing through the muscles only, and making its appearance on the inner aspect. It was cut out by Dr. McNulty, and the patient, after a short sojourn of a few weeks in hospital, returned to duty.—*American Med. Times.*

Camp Richardson, near Alexandria, Va., Dec. 1861.

Physical Training.—Among the Parliamentary Papers recently issued, are two small volumes containing some information collected by Mr. Edwin Chadwick during the recent education inquiry. Mr. Chadwick shows in these papers that the present practice of long hours of teaching is a wide cause of enervation and predisposition to disease, and induces also habits of listlessness and dawdling. The half time system is found to give nearly, if not quite, as good education as the whole time; and common sense tells us that a boy who has acquired the same amount of knowledge in half the time of another boy must have obtained a proportionately superior habit of mental activity. It is this alert-

ness, combined with the bodily aptitudes created by drill, that gives the comparatively stunted boys of the town a preference over the strong, robust lads from the coast. Good schoolmasters say that about three hours a day are as long as a bright voluntary attention on the part of children can be secured, and that in that period they may be really taught as much as they can receive; all beyond the profitable limit is waste.—*Med. Times and Gazette.*

Destruction of Infant Life in England.—Of the deaths in England, in 1859, no less than 184,264—two in every five of the deaths of the year—were of children under five years of age; and above half of these—105,629—had scarcely seen the light, and never saw one return of their birth day. A very large number of these early deaths are from debility and causes which prove that the children never had much chance of life, but many are suffocated, or otherwise killed, accidentally, carelessly, or worse. In the last five years, within the metropolitan district alone, at least 278 infants were murdered; above 60 were found dead in the Thames, or the canals or ponds about London, and many more than 100, at all events, were found dead under railway arches, on doorsteps, in dust-holes, cellars, and the like.—*Medical Times and Gazette*, August 24, 1861.

New York Pathological Society—Successful Removal of Thyroid Gland.—Dr. Voss gave the following history of a lady aged fifty-four years, from whom he had removed a hypertrophied thyroid gland. At the age of twelve she first noticed an unnatural fulness of the throat, which gradually became more marked and defined up to the time of the operation. No reason could be found for the appearance of the growth, either so far as hereditary, endemic, or any other influences were concerned. During the whole of her menstrual life, which extended from her sixteenth to her forty-eighth year, she had always suffered from dysmenorrhœa, and was in consequence childless. At different periods of the existence of the tumor various forms of medication were resorted to, but the only effect was a slight diminution in its size. Within the last seven years the tumor, having attained quite a large size, oc-

casioned her a great deal of difficulty in swallowing and breathing, so much so that towards the last she was unable to lie down. While in Germany, she applied to have the tumor removed, but the operation was denied to her. At that time she was directed to take iodine, which she did, until iodism was induced. Her suffering from the presence of the tumor at last became so aggravated that she earnestly requested its removal. The size of the tumor before the operation was equal to that of a clenched fist; it was flattened antero-posteriorly. It was situated more to the left than the right, and consequently pushed the trachea to the right side. On palpation neither fluctuation nor pulsation could be felt. When standing erect the head could be moved very well from side to side, but the slightest motion backwards occasioned her distressing dyspnœa. The difficulties in the removal were comparatively small. A long incision was made from the upper part of the thyroid cartilage down to the manubrium of the sternum. As one part of the mass on the left side reached somewhat behind the sternum, the detachment of the tumor was commenced on the outer surface, and the vessels which came from the lower right side were secured. There was comparatively a small amount of venous hæmorrhage in this step of the operation, but when the left side of the tumor was reached the venous flow was very profuse and unmanageable, until the mass being detached as far as possible the chain of the *écraseur* was placed around it and the whole removed. The resulting wound was perfectly dry. The patient progressed remarkably well since the operation, the pulse at no time during the last two weeks exceeding ninety beats per minute.

The tumor, on microscopic examination, proved to be non-malignant in character, and composed of fibroid, colloid, and vascular tissue.

Dr. Wood remarked that operations connected with the thyroid gland were always interesting in connection with the great amount of hæmorrhage that was apt to occur. He stated that the operation for the removal of this gland had been performed two or three times in this city. He knew of two instances of death from venous hæmorrhage. "I recollect," remarked he, "that when I was a student there was a gentleman in this city who attempted the operation upon an English lady; he cut down upon the body, and before he had fairly removed it the venous hæmorrhage was so great that she died. I recollect another case, where the operator

attempting to remove the tumor took the precaution to apply ligatures at four different points. They were introduced doubly by needles, and then tied, but so great was the hæmorrhage that the next morning death resulted. I remember seeing the chairman operate on one of these cases and the same thing obtained there; the veins were enormous. If I remember rightly he did not continue the operation necessary for its removal. I take it that the tumor presented to-night is a very unusual form. I have never seen the thyroid body presenting that appearance, having the three characters, vascular, fibroid, and colloid combined."

Dr. Post remarked that the case alluded to by Dr. Wood was one which had been previously seen by Drs. Mott and Van Buren, and neither they nor he regarded the thyroid body as being the seat of the disease; the actual magnitude of the tumor disguised its origin. When, however, the operation was commenced by Dr. Post, it was found that the thyroid body was the tumor, and that the veins which ramified through its substance varied in size from that of the little finger to the thumb. One lobe of the tumor was so much exposed that he applied to it two ligatures, and afterwards unwisely exsected a portion of it. The operation was abandoned, and shortly after frightful hæmorrhage succeeded, and Dr. Wood being near at hand available assistance was rendered. A good deal of febrile excitement followed, the tumor diminished one half as the result of subsequent suppuration, and the patient finally recovered.

Dr. Voss, in answer to a question from Dr. Sayre, gave it as his opinion that the unpleasant result of alarming hæmorrhage was prevented by the timely use of the *écraseur*. He stated that the profuse hæmorrhage at the lower and left part of the gland was due to a large vein which was fully the size of his finger. In the application of the écraseur this vein was left free, the upper parts of the tumor were grasped, and when the supply of blood from the superior thyroid arteries was thus cut off the venous hæmorrhage ceased at once. He agreed with Dr. Wood in saying that the tumor was unique in character, from the fact that it combined three characters in one, and contained none of the cystic elements of which goitrous tumors were for the most part composed.—*American Medical Times.*

XUM

RAPIDITY OF GROWTH OF FUNGI.—Mr. Ward, in his work "On the Growth of Plants in Closely-Glazed Cases," says of it: "I had been struck with the published accounts of the extraordinary growth of the *phallus impudicus*. I therefore procured three or four specimens in an undeveloped state, and placed them in a small glazed case. All but one grew during my temporary absence from home. I was determined not to lose sight of the last specimen; and observing one evening that there was a small rent in the volva, indicating the approaching development of the plant, I watched it all night, and at 8 o'clock in the morning the summit of the pileus began to push through the jelly-like matter with which it was surrounded. In the course of twenty-five minutes it shot up three inches, and attained its full elevation of four inches in one hour and a half. Marvellous are the accounts of the rapid growth of cells in the fungi; but in the above instance it cannot for a moment be imagined that there was any increase in the number of cells, but merely an elongation of the erectile tissue of the plant." The force developed by this rapid growth and increase of the cells of fungi is truly astonishing. M. Bulliard relates that on placing a fungus within a glass vessel the plant expanded so rapidly that it shivered the glass to pieces with an explosive detonation as loud as that of a pistol; while Dr. Carpenter, in his "Elements of Physiology," mentions that "in the neighborhood of Basingstoke a paving-stone, measuring 21 inches square, and weighing 83 lbs, was completely raised an inch and a half out of its bed by a mass of toadstools of from six to seven inches in diameter, nearly the whole pavement of the town being heaved up by the same cause." Every one has heard of the portentous growth of the fungi in a gentleman's cellar, produced by the decomposing contents of a wine-cask, which, being too sweet for immediate use, was allowed to stand unmolested for several years. The door in this case was blocked up and barricaded by the monstrous growth, and when forcible entrance was obtained the whole cellar was found completely filled, the cask which had caused the vegetable revel, drained of its contents, being triumphantly elevated to the roof, as it were upon the shoulders of the bacchanalian fungi.—*Macmillan's Footnotes from the Page of Nature.—Med. Times and Gazette*, Sept. 28, 1861.

Death of a Quack.—M. Giraudeau de St. Gervais, the inventor of the medical *reclame* and advertisement, died a short time ago, leaving a fortune of four million francs (800,000 dollars). This individual was possessed of two *robs* for curing every syphilitic disorder, namely, the *rob Vegetal Anti-syphilitique* and the *rob Boyveau-Laffecteur*. By simultaneously advertising both, he created an apparent rivalry and antagonism between the two nostrums, and thus caused the interest of the public in them never to flag. His yearly expenses for advertising amounted to 200,000 francs (40,000 dollars,) and he had succeeded, nobody knows how, in obtaining the Greek order of the Redeemer, and the Cross of the Legion of Honour, *Requiescat in pace.—Ibid.*

Detachment of the Epiphysis of the Radius in both Arms.—A boy, aged eight years was admitted a few weeks ago into the London Hospital, on account of injuries sustained in a fall from a tree. He was suffering from concussion, and could not give a clear account as to the exact manner in which he fell; but it was almost certain that he had fallen forwards, pitching on his outstretched hands, and afterwards striking his head. The deformity was most marked in the right wrist, where it was so great that the receiving-room porter announced the case to the house-surgeon as "a dislocated wrist, sir." As usual in these cases, which by untrained observers are considered to be dislocations of the wrist, the lesion proved to be a detachment of the extremity of the radius. By extension all deformity might be removed. No crepitus was felt. In the left wrist the state of things was exactly similar, but the deformity not so great. Both were put up in splints in the usual manner.

The boy remained in the hospital about a fortnight, on account of his head symptoms, and from which at the time of discharge he had wholly recovered.

Three weeks after the accident the epiphysis were firmly united to the shafts, with, however, a large amount of thickening and some displacement forwards.

Mr. Hutchinson remarked to the students that this was the first instance of a symmeterical detachment of the radial epiphysis which he had ever met with. He had, however, several times seen

XUM

Colles's fracture of the radius in both arms, and it was to this accident in the adult that detachment of the epiphysis in children was analogous. Both forms of injury usually resulted from falls forward on the palm of the hand. In young persons the epiphysis slipped off, whilst in those whose bones were fully ossified, fracture took place across, or very near to, the line of union. Detachment of the epiphysis, although but little spoken of in books, is by no means rare in practice. It is true that Colles's fracture in adults is very much more common than is detachment in children. But then we must remember that fracture of the clavicle, which is due to the same form of violence, is much more common in children than in adults. At University College Hospital alone, during a single month, there were as many as twenty cases of clavicular fracture in children, as we were informed by Mr. Lyons, the house-surgeon. As a rule, it requires much greater force to detach an epiphysis than to break a fully ossified bone, and it is to this fact that we must refer the disproportion alluded to.—*Lancet*, Aug. 24, 1861.

Rapid Absorption of Pus from the Anterior Chamber of the Eye.—If any of our readers still doubt as to the possibility of the absorption of pus the following case may be of interest. It illustrates an event which is not at all unfrequent in the practice of our ophthalmic hospitals, though the process was certainly more rapid than usual:

Richard D., a boy, aged 6, was admitted under Mr. Dixon's care, at Moorfields, on Thursday last. His right eye was acutely inflamed, there being a central ulcer on the cornea and hypopyon. The quantity of pus in the interior chamber was, perhaps, about two drops, it was quite fluid, occupied the most dependent part of the chamber, and moved on motion of the head. There had been no known injury, the inflammation having commenced spontaneously with much pain three days before. The boy appeared out of health and feeble. He had already been well purged. A blister was ordered to be put behind the ear, and a grain of quinine to be taken three times a day. When the boy attended on the following Monday *every vestige of the pus had disappeared*, and the whole aspect of the eye was greatly improved.

The result of this case cannot but be instructive to those who

advocate paracentesis of the anterior chamber in hypopyon. With regard to the general question of the absorption of pus, we may ask, why should not that occur in abscesses, in empyema, in suppuration of joints, which we see so clearly and so frequently in cases of purulent effusion into the anterior chamber of the eye?—*Ibid.*

Housemaid's Knee.—Mr. Skey has purposely admitted into St. Barthlomew's, a large number of cases of this affection, and they may be supposed to have presented every variety of form, character, and stage of progress. "I am not sanguine enough," he observes, "to entertain the hope of shaking the confidence of many surgeons in the efficacy of blisters and tincture of iodine, which may be applied and reapplied for months without the smallest impression on the disease, so far as I have witnessed their effects. Indeed, with respect to the latter agent, I regret to say that I know of no chemical or therapeutical agent in such general resort as a local remedy in disease which is so commonly inoperative for good; and in these bursal diseases it appears to me to be especially so. If a full sized thread be passed through the center of the swelling, be it large and hard, giving the sensation of a solid mass, but in the center of which is always found a small cavity or fissure; or be it soft, and containing fluid, whether large or small, suppuration in the course of from two to five or six days, will inevitably follow. The thread may then be removed. The disease is converted into an abscess, and may be treated as an abscess. I may assert, without exaggeration, that I have cured from 100 to 200 cases on this simple principle. No other caution is necessary beyond the removal of the thread when the orifices through which it has passed indicate the inflammatory action incidental to its presence.

"The same agent, and on the same principle, is equally applicable to *ranula*. Indeed, it is quite remarkable with what rapidity this disease recedes under the action of the thread, whether the cyst be of average or of the largest size. Of the latter I have reported some, and treated several of such magnitude as to require the lower end of the thread to be brought out in the neck at some distance below the base of the jaw."—*Lancet*, October 5, 1861.

XUM

Tin Fracture Splints.—Prof. Cooper, in the San Francisco *Medical Press*, says:—"For a long time we have been in the habit of using tin instead of wood for fracture splints. This material is so far superior to all others used for the purpose, that we are greatly surprised that manufacturers of patented splints have never adopted it instead of wood. It is lighter, stronger, far cheaper, and can be moulded into any desirable shape by the surgeon. Thus, as is often the case in compound fractures, it being desirable to have some particular part exposed, the surgeon may go to any tinner, and procure, at very trifling expense, the splints, with the necessary openings, which cannot be the case with the use of wood. Any tinman can easily make the splints, but few workmen can make them properly shaped of wood. We would particularly commend them to young practitioners, who may not be able to equip themselves with the more costly appliances, in the commencement of their practical careers."

Regeneration of Bone.—Dr. Lamare-Piquot has communicated to the Academy of Sciences a highly interesting paper relative to a case of regeneration of bone which occurred in his practice. The patient, a boy of fourteen, met with a fearful railway accident, one of his arms being broken and one of his legs crushed under the wheel of a baggage truck. The tibia was smashed, or rather pulverized, into innumerable splinters, many of which were removed; and the fibula was in a like desperate condition. Although, from the nature of the case, a conservative course seemed to be rather hazardous than otherwise, nevertheless an attempt was made to save the leg. The limb was placed on a splint, and subjected to continued irrigation for the space of thirty-seven days, the quantity of water daily used in the process varying from twenty to twenty five quarts. At the end of three months the few remaining shreds of periosteum began to resume their bone-making functions; and so successfully is this second crop of osseous tissue proceeding at the present moment, that ere long the entire tibia will have been replaced by new material, and the boy be able to walk without crutches.—*Lancet*, Aug. 31, 1861.